

375 382p

Keep Your Card in This Pocket

Books will be issued only on presentation of proper library cards.

Unless labeled otherwise, books may be retained for four weeks. Borrowers taking books marked defunct or mutilated are expected to report same at library desk, otherwise the last borrower will be held responsible for all imperfections discovered!

This card holder is responsible for all books drawn on his card.

Penalty for over-due books 20 a day plus cost of edition.

Lost cards and change of residence must be reported promptly.



PUBLIC LIBRARY

Kansas City, Mo.

Keep Your Card in This Pocket

**DATE DUE**

6-11-44

8 JUL

1807

23 No 0 49

30 JUL '37

1942 79

MAY NOV 24 1980

**PRIVATE AND PUBLIC SECONDARY
EDUCATION**

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

THE BAKER & TAYLOR COMPANY
NEW YORK

THE CAMBRIDGE UNIVERSITY PRESS
LONDON

THE MARUZEN-KABUSHIKI-KAISHA
TOKYO, OSAKA, KYOTO, FUKUOKA, SENDAI

THE COMMERCIAL PRESS, LIMITED
SHANGHAI

PRIVATE AND PUBLIC SECONDARY EDUCATION

A Comparative Study

LEONARD V. KOOS

*Professor of Secondary Education
The University of Chicago*



THE UNIVERSITY OF CHICAGO PRESS
CHICAGO · ILLINOIS

COPYRIGHT 1931 BY THE UNIVERSITY OF CHICAGO
ALL RIGHTS RESERVED. PUBLISHED FEBRUARY, 1931

COMPOSED AND PRINTED BY THE UNIVERSITY OF CHICAGO
PRESS, CHICAGO, ILLINOIS, U S A.

PREFACE

The investigation reported in this book was conducted by the writer while, besides being engaged in the customary activities of a full-time member of the teaching faculty, he was serving as inspector of private secondary schools for the University of Minnesota. The data used were gathered during the four school years 1925-26 to 1928-29. Most of the tests of which results are to be found in chapters ii and iii were administered during the late months of the school years 1926-27 and 1927-28.

The work of investigation was carried on with subventions from the University of Minnesota through its Committee on Relations to Other Institutions of Learning, under whose auspices the work of inspection of private secondary schools is done. From the standpoint of the Committee the investigation was made to provide a more substantial basis for establishing policies in accrediting private secondary schools than is afforded by the usual type of inspection, inspection which relies largely on brief visitation and on report forms filled out by those in charge of the schools. The Committee approved the general outline of the investigation, but the writer assumes responsibility for the procedures followed and for the conclusions drawn.

It is to be expected that the implications of an investigation of this kind would far outrun the mere need of a better basis of accreditation. This is assured first by the wide scope of the complete investigation, which includes the students, their ability and achievement as shown by tests, their success in the university, the curriculum offerings of the schools, and the training of teachers. It is assured in the second place by the fact that at practically all points comparisons are made of private and public secondary schools and also of the different types of private schools. The study is made available in its

present form primarily to provide a better understanding of private and public secondary education in comparison with each other, and only secondarily to illuminate the issues of accreditation.

An investigation of the nature and scope here reported could not have been made without the active and generous co-operation of a large number of persons. The writer desires to make special acknowledgment of contributions to the materials of certain chapters of the book by graduate students in the University of Minnesota, namely, to chapter ii by Frank Einar Johnson, to chapter iv by John M. Bly, and to chapters v and vi by Gordon N. Mackenzie. The studies made by these men were planned and executed as parts of the complete investigation. He desires to acknowledge also the assistance and advice, on the materials of chapter iii, of Drs. Oliver L. Troxel and Grayson N. Kefauver, formerly on the staff of the College of Education in the University of Minnesota and now, respectively, of Colorado State Teachers College and Teachers College, Columbia University. It is out of the question to name the long list of administrative heads and teachers in the private and public schools represented without whose help the evidence used in the book could never have been gathered.

Credit to authors and publishers whose works have been drawn upon is given at the points where quotations are made. To Dr. Francis M. Crowley, formerly secretary of the Bureau of Education of the National Catholic Welfare Council and now Dean of the School of Education in St. Louis University, appreciation is due for arranging for permission to cite at a few points unpublished reports of surveys of Catholic high schools, these being points at which the findings of the surveys are at variance with those of the present investigation.

The drawings used were prepared in the Medical Art Shop of the University of Minnesota.

LEONARD V. KOOS

CONTENTS

CHAPTER	PAGE
I. THE SCHOOLS AND THE PROBLEM	I
Private and Public Secondary Education in the United States	1
The Schools of the Present Comparison	8
The Lines of Comparison	17
II. WHO ATTENDS AND WHY	19
The Preference for Private Secondary Schools	19
Students' Reasons for Attendance	21
Denominational Preferences of Parents as a Determinant	25
Types of Elementary Schools Completed by Students in Private Secondary Schools	30
Deceased Parents as a Factor of Attendance	31
The Nativity of Parents	33
The Language Ordinarily Spoken in the Home	37
The Economic and Social Status of Fathers	40
Numbers of Children in the Families Represented	47
The Age of Students in Private and Public Schools	48
The Intelligence of Students in Private and Public Schools	50
Educational Outlook of Students in Private and Public Secondary Schools	59
The Significance of the Evidence	65
III. THE ACHIEVEMENT OF STUDENTS	69
The Plan of Comparison	69
Minimum Essentials in English	72
Ability in Reading	76
Latin	79
French	82
First-Year Algebra	84
Plane Geometry	87
Physics	89
Chemistry	91
American History	92
Civics	94

CHAPTER	PAGE
The Comparison Reported by the Educational Records Bureau	99
Conclusions from the Present Comparison	101
IV. SUCCESS IN THE UNIVERSITY	104
The Plan of the Project	104
The Students Included in the Comparison	105
The "College Aptitude" of Entrants	109
The Age of Entrants	114
A Comparison of Scholarship	114
A Comparison of Scholarship by the Matching Method	122
Other Comparative Studies	132
A Résumé of the Comparisons	135
V. THE CURRICULUM	140
Scope and Nature of the Comparisons	140
Types of Programs of Studies	143
Numbers and Kinds of Curricula Provided	148
Work Required of All Students	151
The Total Offering and the Offering in Certain Subject-Groups	156
Enrolment in the Different Subject-Groups	159
The Upshot of the Comparisons	162
VI. THE TEACHERS	165
Aspects of the Comparison	165
The Experience of Teachers	167
The Extent of Training	169
The Teaching Program	175
Preparation for Subjects Taught	178
General Training of Teachers	183
Professional Training	187
Chief Conclusions from the Evidence	189
VII. THE SIGNIFICANCE IN SUMMARY	194
Summary of the Evidence	194
The Evidence Presented and the "Function" of the Private Secondary School	209
SELECTED BIBLIOGRAPHY	218
APPENDIX A	221
APPENDIX B	223
INDEX	225

CHAPTER I

THE SCHOOLS AND THE PROBLEM

PRIVATE AND PUBLIC SECONDARY EDUCATION IN THE UNITED STATES

Comparative consideration of private and public secondary education in this country has been dominantly a matter of prejudice and partisanship—sometimes intense. The champion of private schools has disparaged public schools while the advocate of public schools has looked upon private education as unnecessary and even dangerous. Both sides to the controversy have waged a war of resounding phrases, but, as with many other conflicts in education and elsewhere, have seemed unwilling to gather and digest the evidence that would actually illuminate the issues involved.

This book undertakes to champion the cause neither of private nor of public education. It aims merely to present and weigh the evidence of a large-scale comparative study of secondary education carried on under private and public auspices. It endeavors to displace prejudice by information. Owing to the extreme complexity of the whole problem no single group of studies, even though they touch the schools, as does this group, in a number of significant aspects, could hope to yield a final appraisal of schools of these two main types. But it is hoped that the book will contribute immediately to a better understanding of secondary schools under whatever auspices they may operate, that it may contain by implication ways of improving both private and public secondary education, and that the study it reports may lay a foundation on which others will in time erect the superstructure of clarification that is nec-

essary before we shall be able to decide on the type or types of secondary schools that as a people we should foster.

Perhaps we should not be surprised that partisanship for private or for public secondary education has not been entirely abated. After all, the history of American secondary education, even though it reaches back to the period of earliest colonization, is not a long one. Moreover, the history of genuinely public secondary education is much shorter. Although the Latin grammar school, the first of our secondary schools, had some public connections, it was not in a strict sense public. The academy was, with occasional exceptions in the later portions of its career, even less a public institution than the Latin grammar school. It was not until the advent of the high school that we had an unequivocally public secondary school, and it was not until the eighties that this institution eclipsed the private secondary school numerically and proportionately. A private-school tradition could easily survive this half-century of competition, especially with many excellent private schools in operation to nourish it.

(1) *The increasing predominance of public secondary education.*—Having mentioned the approximate period in which private schools began to be outnumbered by public schools, we may well proceed to canvass the increasing predominance of public schools since that time. This may be done by means of Figure 1, in which are shown at points mostly ten years apart beginning with 1890 the percentages which private schools and public schools were of the total numbers of schools reporting to the Office of Education in the Department of the Interior, and the proportions of all students enrolled in these schools. The trend is unmistakable. It shows the percentage of private schools to have declined from 39.2 in 1890 to 11.9 in 1928, and the percentage of students enrolled in them to have dropped off from 31.9 to 7.4. Recent years have been increasingly an era of public secondary education.

Readers who have had experience in securing reports on matters like those represented here will know that these percentages may be somewhat in error. This is because of the failure of schools to return the blanks submitted. These readers will know also that larger proportions of private schools than of public schools will fail to send in reports, the explanation being that they are less accustomed than public schools

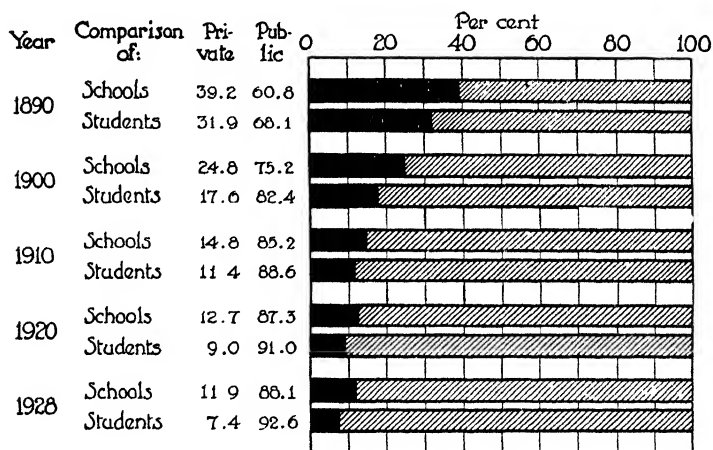


FIG. 1.—Percentages of all secondary schools which were private and public schools and percentages of all students enrolled in these schools, 1890-1928.

to make reports. It is certain that the proportions of private schools and of students enrolled in them were actually somewhat larger than as reported. Information on the extent of discrepancy will be given below in dealing with data for a single state. There can, nevertheless, be no denying the approximate accuracy of the proportions nor gainsaying the trend toward increasing predominance of public secondary education.

These percentages do not disclose the fact of sheer numerical growth of both types of secondary education over the period represented. The numbers of private schools reporting to the

4 PRIVATE AND PUBLIC SECONDARY EDUCATION

Office of Education increased from 1,632 in 1890 to 2,448 in 1928. The numbers of students reported for these schools increased from 94,931 to 269,249. These represent increases of 50.0 per cent and 183.6 per cent, respectively. They are large increases for a period of 38 years, but they are far smaller than those for public schools. Public schools in the same period increased in number from 2,526 to 18,116 and the students enrolled increased from 202,963 to 3,354,473. These are increases of 617.2 per cent and 1552.8 per cent, respectively.¹ Thus, although private schools grew rapidly, the growth of public schools was so much more vigorous that relatively the private schools as a single group have lost ground. It should be significant that the numbers of private schools and students were by 1928 approximately equivalent to the numbers of public high schools and students in 1890.

By reporting percentages for the nation as a whole we conceal differences between the several sections in the relative status of private and public secondary schools. In 1921-22, when the enrolment in private secondary schools of the total enrolment in all secondary schools for the country, was 7.7 per cent, the highest percentage for any section was 13.9 and the lowest was 5.1; that is, the highest was more than two and one-half times the smallest. These two sections were, respectively, New England and the West (from Montana, Wyoming, Colorado, and New Mexico westward). In order from highest to lowest, the sections between these were southern states, 10.3; middle Atlantic states, 9.1; and central states, 6.2.²

¹ The figures reported for private and public secondary schools are based, respectively, on Table I, page 2, of *Statistics of Private High Schools and Academies 1927-1928*, and Table I, pages 18-19, of *Statistics of Public High Schools, 1927-1928*. These publications are Bulletins Nos. 19 and 35, 1929, of the United States Office of Education.

² Leonard V. Koos, *The American Secondary School*, p. 344. Ginn & Co., 1927.

The generalization to be made is that *the farther & smaller the proportion of private-school enrolment*. Two elements at least account for this. The first and probably the more influential one is the fact that the public high-school movement was so vigorous in the early days of these newer states as to prevent the growth of such a private-school tradition as is found in other sections. The emergence of these states and the rise of the public high school were contemporary developments. The second is the presence in the New England and middle Atlantic states of a number of well-known private schools which attract students from all sections of the country. While proportions are thereby increased in eastern states, they are reduced somewhat in central and western states. This element works to exaggerate the differences beyond what they actually would be if it had been possible to include in the computations for the several sections students only from within each of the respective states.

(2) *The relative status of the three groups of private schools.*—It is not enough in any description of the relative growth and status of private and public secondary education to stop with the consideration of all non-public schools as a single group. "Private" schools are diverse institutions operating under a diversity of auspices. Schools under some of these auspices may be thriving and those under others may be languishing. In order to inquire to some extent into the forces at work within this diverse composite of private secondary schools of the country Table I and Figure 2 have been prepared. For this analysis the schools have been grouped as under Roman Catholic, other denominational, and non-sectarian control. To ascertain trends for each group, comparisons are made for 1915 and 1928. The comparisons include both numbers of schools reporting to the Office of Education and numbers of students enrolled in these schools.

4 PRIVATE AND PUBLIC SECONDARY EDUCATION

only one of these groups experiencing growth in number and percentage of schools during the intervening period is the Roman Catholic group. The increase for this group was

TABLE I

NUMBERS AND PERCENTAGES OF ROMAN CATHOLIC, OTHER DENOMINATIONAL, AND NON-SECTARIAN PRIVATE SCHOOLS IN 1915 AND 1928, AND NUMBERS AND PERCENTAGES OF STUDENTS ENROLLED IN THESE SCHOOLS*

GROUP	SCHOOLS				STUDENTS			
	1915		1928		1915		1928	
	Numbers	Percentage	Numbers	Percentage	Numbers	Percentage	Numbers	Percentage
Roman Catholic	975	43.4	1,345	54.9	56,182	36.2	158,612	56.6
Other denominational . . .	611	27.2	444	18.1	47,647	30.7	46,175	16.5
Non-sectarian . . .	662	29.4	659	26.9	51,215	33.0	75,662	27.0
Totals	2,248	100.0	2,448	99.9	155,044	99.9	280,449	100.1

* Based on data in Table III, page 3, of *Statistics of Private High Schools and Academies, 1927-1928*. United States Office of Education, Bulletin No. 19, 1929

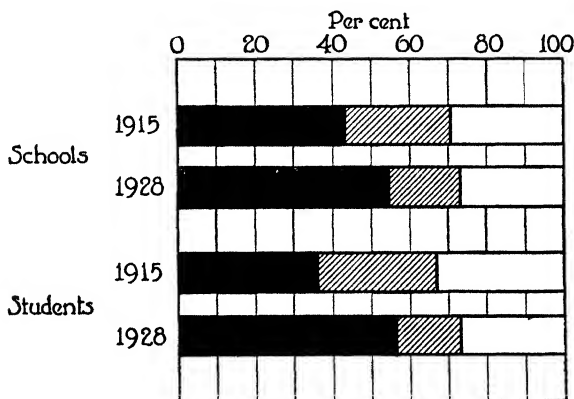


FIG. 2.—Percentages of Roman Catholic, other denominational, and non-sectarian private schools in 1915 and 1928, and percentages of students enrolled in these schools (black, Roman Catholic; shaded, other denominational; in outline, non-sectarian).

large. Schools of other denominations decreased in number and percentage, and non-sectarian schools all but held their own numerically while losing ground proportionately. In number and percentage of students the Catholic schools made even greater gains than in number of schools. Although schools of other denominations almost held their own in number of students, the proportion these students were of all students in private schools was almost cut in half between 1915 and 1928. Non-sectarian schools gained in number enrolled but lost in the percentage enrolled, this loss being a reflection of the rapid increase for Catholic schools.

"Other denominations" is itself a broad term. The denominations for which data on schools and students are separately reported (because of larger numbers than in any of the remaining denominations) are, in alphabetical arrangement, Baptist, Congregational, Episcopal, Friends, Latter Day Saints, Lutheran, Methodist Episcopal, Methodist Episcopal South, Presbyterian, and Seventh Day Adventist. The only denomination in this group that was not either losing ground or doing little more than holding its own in numbers of schools and students was the last in the list, and the growth for this denomination was not extraordinary.¹

Among the "non-sectarian" schools are those that in recent years have preferred to be known as "independent" schools. The preference for this designation may be prompted by a variety of motives, among them the aim of denominational independence and a desire to lay hold of a distinctive designation and thereby be differentiated out of the diverse composite of "private" schools. It is unlikely that the term has been adopted solely, as some unfavorable critics have surmised, to stress

¹ The reader interested in seeing the numerical data is directed to reports issued by the United States Office of Education; for example, Bulletin No. 19, 1929, *Statistics of Private High Schools and Academies, 1927-1928*, Table III.

8 PRIVATE AND PUBLIC SECONDARY EDUCATION

the independence of the social obligation which is imposed on public schools because they *are* public.

The chief conclusion from this evidence concerning the groups of private schools is that the only dynamic group, as determined by this reported growth in numbers and proportions, is the group of Roman Catholic schools. This becomes apparent when, as was done by Crowley, computation is made of the percentages which students enrolled in Catholic high schools were of students enrolled in public and private high schools. He found that the percentage increased from 5.0 to 6.2 in the interval of years between 1915 and 1926. For this computation Crowley had at hand a much more nearly complete report of the enrolments in Catholic schools than the Office of Education has been fortunate enough to secure.¹

(3) *Segregation and coeducation in private and public schools.*—There is much more segregation of the sexes in private schools than in public schools. In 1925-26, of the private schools reporting to the Office of Education in Washington, 17.7 per cent were schools for boys, 34.6 per cent were schools for girls, and 47.7 per cent only were open to both sexes.² This is in striking contrast to the public-school situation in the same year, when only seven-tenths of 1 per cent of public high schools were segregated schools.³

THE SCHOOLS OF THE PRESENT COMPARISON

The schools represented in the basic comparisons in this book are private and public secondary schools of Minnesota.

¹ Francis M. Crowley, "Rapid Development of Catholic High Schools in Past Decade," *School Life*, XIV (February, 1929), 112-14.

² Computations based on data presented in *Statistics of Private High Schools and Academies, 1925-1926*. United States Office [Bureau] of Education, Bulletin No. 31, 1927, p. 1.

³ Computation based on data presented in *Statistics of Public High Schools 1925-1926*. United States Office [Bureau] of Education, Bulletin No. 33, 1927 p. 11.

At a number of points evidence from other situations is brought in, but chiefly to note whether or not conditions as found in Minnesota are sufficiently typical to warrant inference for wider areas. On the representativeness of the situation in Minnesota for that in the country as a whole considerable evidence will be presented, both in remaining portions of the present chapter and subsequently, but it seems desirable to venture a preliminary word of assurance on this general score at this point: with only occasional exceptions (which will be noted where they appear) the situation with respect to private and public secondary education in Minnesota is an epitome of the situation in the United States.

(1) *The growth and recent status of private and public secondary education in Minnesota.*—One of the evidences of this parallelism is to be found in the recent growth and present status of private and public secondary schools in the state. If we rely on data issued by the Office of Education in Washington in publications that have already been drawn upon in this chapter for data concerning the United States, we find that the number of private schools reporting to the Commissioner of Education increased from 20 in 1890 to 47 in 1926. The numbers of students reported as being enrolled in these schools increased in the same period from 1,341 to 5,618. We learn from reports issued from the Department of Education in Minnesota that what were formerly classified as “state high schools”—a group meeting certain standards—increased during the same period from 64 to 258 and the enrolments in these schools from 3,665 to 61,866. A moment’s consideration of these figures will convince that, although private schools were increasing in numbers and in enrolments with some rapidity, public schools were gaining so much more rapidly that relatively the private school appears to have lost ground. This finding coincides with a conclusion drawn above for the country as a whole.

The facts cited thus far do not tell the whole story. In a

study recently reported by Graham it was found that the number of private secondary schools actually operating far exceeded the number reporting to the Commissioner of Education in Washington. Graham learned from the *Directory of Catholic Schools and Colleges* that 86 schools in Minnesota under Roman Catholic auspices in 1924 enrolled 6,314 students, and from the *Lutheran World Almanac* for 1924-26 that 16 Lutheran academies and seminaries in the same year enrolled 2,235 secondary students. From additional sources he located 11 "other non-public high schools and academies" enrolling 994 students.¹ This is a total of 113 different private secondary schools with a combined enrolment of 9,543. This is well over twice the number of schools that were reported to the Office of Education, and three-fifths more students than were reported.

Nor does the evidence so far given on the status of public secondary schools include all schools and students. To the schools designated as state high schools should be added 184 "high-school departments," that is, high schools not meeting the standards for state high schools. These in 1925-26 enrolled 11,571 students. There were also a number of public schools not meeting the standards for high-school departments in which some high-school work was offered. Besides these there were 55 junior high schools, in the ninth grades of which 10,609 students were enrolled. Without attempting to be accurate, in part because the school years do not coincide for all the types of data cited, we may say that students in private secondary schools constituted at the time about one-tenth of all secondary-school students in the state. This is larger than may be inferred from data reported to the Office of Education, but, when compared with the proportions for earlier periods, still

¹ Hugh Graham, "The History of Secondary Education in Minnesota," doctor's thesis on file in office of Graduate School, University of Minnesota, 1929, p. 307.

lends support to the conclusion already drawn that, notwithstanding the growth of private schools, these schools relatively have been losing ground because of the much more rapid gains of public schools.

(2) *The relative growth and status of schools under different private auspices.*—Another element of the parallelism of the situation in Minnesota with that in the country as a whole is to be found in the relative growth and recent status of the different groups of secondary schools on private foundations. The numbers of schools reporting to the Commissioner of Education in Washington, as shown in publications already referred to, fluctuated during the twenty years beginning with 1890 between 18 and 30. By the year 1910 the number rose to 39, and increased subsequently so that, by 1927-28, 52 private schools submitted reports. As in the data for the United States, it can be shown that Catholic schools will account for all the increment, and that the two other types of schools, that is, other denominational and non-sectarian, were either practically at a standstill or losing ground. This is reflected in the additions to the list of private schools accredited to the University of Minnesota to which attention will next be directed. Over a period of ten years 18 new Catholic schools were recommended for accreditation, whereas the numbers of schools on other foundations recommended included no more than three or four. Besides, there were a few losses from the groups of the other denominational and non-sectarian lists owing to discontinuance of the schools.

(3) *The private schools represented in this investigation.*—The comparisons in this book do not include all private secondary schools in Minnesota. Only private secondary schools on the accredited list of the University of Minnesota are represented. Without question this means that the representation is by a somewhat selected group of schools as compared with all pri-

vate secondary schools in the state. Among schools not represented are a number which had at one time or another been inspected but not recommended for accreditation, others which had at some time been accredited but subsequently dropped from the list, and still others that had not requested inspection with a view to accreditation.

The 53 private schools represented (see Appendix A) have been classified for the purpose of many comparisons into three groups: Roman Catholic, Scandinavian, and independent. The numbers in each of these three groups are, respectively, 33, 11, and 9. (1) Of the Catholic schools 14 are parish (or parochial) schools, 5 are diocesan schools, and the 14 remaining are schools maintained and controlled by some religious order.¹ (2) The designation "Scandinavian" is not fully satisfactory for the group referred to. Most of these schools have Lutheran affiliations, but not all. However, all but a single one of the group, a German-Lutheran institution, draw students dominantly from those of Norwegian, Swedish, or Danish (one school only) extraction. This group may be thought of as *a Protestant group in which denominational lines are highly determinative of the student body*. The evidence of the following chapter supports this inference and discloses that this influence is strengthened by the ethnic factor referred to in the name given the group. (3) The "independent" group includes 5 schools on non-sectarian foundations, 3 with Episcopal, and 1 only with Baptist connections. The justification for including the 4 institutions last referred to with non-sectarian schools is also to be found in the following chapter, in which the evidence on denominational membership or preference of parents shows dominant disregard of the denominational auspices under

¹ In discussing these three types of Catholic schools Crowley (*op. cit.*, p. 112) refers to them, respectively, as "parochial," "central," and "private." According to him, the order of historical appearance of the types in the United States was (1) private, (2) parochial, and (3) central.

which the schools are operating. *What we have in these three groups is (1) the Roman Catholic group in which denominational lines are highly determinative of the student body, (2) the Scandinavian group, which is a Protestant group in which denominational lines are highly determinative of the student body, and (3) a non-sectarian and Protestant group in which enrolment is largely independent of denomination.* The classification corresponds roughly, but does not quite coincide, with that followed with private schools of the United States in earlier portions of

TABLE II

DISTRIBUTION OF ROMAN CATHOLIC, SCANDINAVIAN, INDEPENDENT, AND ALL TYPES OF PRIVATE SECONDARY SCHOOLS IN MINNESOTA TO THE TWIN CITIES (MINNEAPOLIS AND ST. PAUL) AND TO COMMUNITIES OUTSIDE THE TWIN CITIES

Group of School	Twin Cities	Outside the Twin Cities	All
Roman Catholic	8	25	33
Scandinavian	5	6	11
Independent	6	3	9
All	19	34	53

the chapter. It has the advantage of actually bringing about a greater homogeneity of the three groups than if the separation into Roman Catholic, other denominational, and non-sectarian groups had been rigidly followed.

The distribution of the schools represented to the "Twin Cities" of Minneapolis and St. Paul and to communities outside these cities is shown in Table II. Almost a fourth of the Catholic schools are to be found in the Twin Cities, the remainder in the smaller cities and villages of the state. Scandinavian schools are almost equally divided between those in the Twin Cities and those outside. Two-thirds of the schools classified as independent are located in the Twin Cities. As a matter of fact, no strictly independent school is to be found outside

the Twin Cities, as two of the three outside have Episcopal connections and the remaining one has Baptist connections. The populations of these outside communities range widely, but most widely for Catholic schools. Several of these, more especially the parish schools, are to be found in small villages counting their populations in hundreds rather than thousands. There are in the two remaining groups no schools in communities of such small size.

Thirty of the 53 private secondary schools represented in our investigations enrol students of one sex only. This makes a proportion of segregated schools similar to that found for the country as a whole. Ten of these segregated schools are for boys and 19 are for girls, the proportions being here again very similar to those for the entire country. In contrast, there is not a single public high school in Minnesota that is not coeducational. Once more we have evidence of the parallelism of the situation in Minnesota and in the United States. The policy in Catholic schools appears to be to provide for segregation wherever possible, as the schools in larger communities are always segregated and those in smaller communities coeducational. Scandinavian schools are all coeducational, and independent schools almost always segregated.

The final item in description of the schools is in respect to size as measured by enrolment. The distribution by size measured in this way of the 53 private schools represented in our comparisons is shown in Table III. With this distribution are compared those for the public high schools of Minnesota and of the United States. Figure 3 is introduced to bring out more clearly the similarities and differences of the groups. The first impression is one of approximate similarity of the distribution of private schools in Minnesota with the two public groups and the remarkable similarity of the two public groups. The differences between private and public schools that appear on closer

scrutiny are (1) the somewhat smaller percentage of private schools with smaller enrolments and (2) the much smaller per-

TABLE III

DISTRIBUTION OF PRIVATE AND PUBLIC HIGH SCHOOLS IN MINNESOTA
AND OF PUBLIC HIGH SCHOOLS IN THE UNITED
STATES ACCORDING TO ENROLMENT

GROUP OF SCHOOLS	50 OR LESS		51 TO 100		101 TO 200		201 TO 500		501 TO 1,000		OVER 1,000		ALL	
	Num-ber	Per-cent-age	Num-ber	Per-cent-age	Num-ber	Per-cent-age	Num-ber	Per-cent-age	Num-ber	Per-cent-age	Num-ber	Per-cent-age	Num-ber	Per-cent-age
Minnesota Private*	7	1.3	2	3.0	15	28.3	9	17.0	1	1.9			53	100.0
Public†	163	29.0	164	29.2	110	19.6	65	11.6	39	6.9	21	3.7	562	100.0
United States Public†	5,512	30.4	4,736	26.1	3,354	18.5	2,452	13.5	1,130	6.2	930	5.1	18,114	99.8

* From special inquiry for 1928-29, excepting a single school discontinued in 1928

† From data in Table III of United States Office of Education, Bulletin No. 35, 1929, *Statistics of Public Schools, 1927-1928*

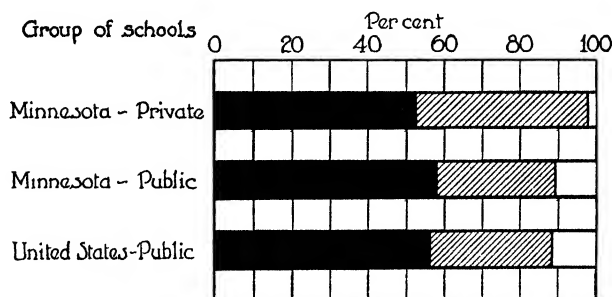


FIG. 3.—Percentage distribution according to enrolment of private and public high schools in Minnesota and of public high schools in the United States (black, schools with 100 students or less; shaded, with 101 to 500 students; in outline, with more than 500 students).

centage in the large-enrolment group. A part of the first difference is to be explained by the fact that all the private schools represented are accredited schools, which is not true for all the members of the groups of public schools. Accredita-

tion would bring about the difference, even though there is no reference to minimum enrolment in the standards applied to private schools by the University of Minnesota.

The distributions by size of enrolment of schools of the three types into which the accredited private schools represented in our comparisons have been separated are reported in Table IV. The impression gained from this table is that the Catholic schools tend to be somewhat larger than the schools of other groups. This impression is borne out by the medians, which

TABLE IV
DISTRIBUTION OF ACCREDITED ROMAN CATHOLIC, SCANDINAVIAN, AND
INDEPENDENT SCHOOLS IN MINNESOTA ACCORDING TO ENROLMENT

Group of Schools	Less than 50	51 to 100	101 to 200	201 to 500	501 to 1,000	Totals
Roman Catholic .	2	12	11	7	1	33
Scandinavian	4	3	3	1	. . . .	11
Independent .	1	6	1	1	. . . . .	9
Totals . .	7	21	15	9	1	53

were Roman Catholic, 106; Scandinavian, 68; independent, 85. The median for the entire group of private schools was 93.

The fact that the private schools in Minnesota represented in our comparison are usually larger than the unaccredited private schools of the state may be given point by drawing upon evidence available in the *Directory of Catholic Colleges and Schools* for 1928.¹ The data reported pertain to 1926. A total of 86 Catholic high schools and academies are listed in this directory. This is more than two and one-half times the number of Catholic secondary schools reported above as being represented in our investigation. Four only of the accredited schools had enrolments of 50 or less; and, on the other hand, four only of the unaccredited schools reported enrolments in

¹ Pp. 350-57.

excess of 50 students. Approximately half of the unaccredited schools offer less than four years of high-school work. The total enrolment in these 86 Catholic high schools in 1925-26 was 6,459. Of these, 5,276 were in accredited schools. We have, therefore, the paradox of including schools that enrol more than four-fifths of the students in Catholic schools, whereas only two-fifths of the schools are included.

The particular groups of public schools in Minnesota used in the comparisons in subsequent chapters will be described at the points where the comparisons are made. These differ somewhat from chapter to chapter, depending upon the needs of the specific comparisons and upon the kinds of evidence at hand from the studies included.

The chief conclusion of this preliminary consideration of schools represented, as predicted, is that the situation in Minnesota is sufficiently typical to warrant inference for wider areas. This conclusion is justified by the comparability of the facts concerning the relative rates of growth and relative recent status of private and public secondary schools, by the types of private secondary schools and the proportions of these types in operation, and by the sizes of schools as measured by enrolment. In subsequent treatment occasional atypical elements will disturb this general conclusion, and these will be noted. But for the most part internal evidence will corroborate this conclusion of regarding the situation in Minnesota as the epitome of the situation throughout the country.

THE LINES OF THE COMPARISON

The comparisons undertaken are wide in scope, touching the schools represented in five major aspects. To each of these aspects a chapter is devoted. The chapter next following compares the students in private and public secondary schools both directly and by means of evidence concerning their parents and

the homes represented. It endeavors to ascertain the factors determining attendance in private rather than public schools. Chapter iii compares the achievement of students as shown by performance on standard tests. Chapter iv reports the results of a comparison of the success in the University of Minnesota of students from private and public schools. Chapter v compares the curriculum offering and courses required. Chapter vi compares teachers as to extent of training, teaching assignments, special preparation for these assignments, nature of general training, and amount of work taken in professional subjects. Students, their achievement while attending, their subsequent success in the university, the curriculum, and the teachers—these are the centers of interest in the contributing portions of this book. The final chapter aims at a summary of the findings and brief discussion of certain of the remoter issues involved.

CHAPTER II

WHO ATTENDS AND WHY

THE PREFERENCE FOR PRIVATE SECONDARY SCHOOLS

Antecedent to consideration of the grounds for preference of private schools by their patrons arises the question of whether there actually is a preference. One method of ascertaining the fact of preference is the comparison of the distance to the private school attended with the distance from the home of the student to the nearest public high school. In order to make such a comparison possible, each student in the schools represented was asked to report the distance in blocks or miles from his home to the institution he was attending and also the distance in blocks or miles to the nearest public high school. The results of an analytic comparison of the responses of a generous sampling of students in representative schools are shown in Figure 4. Among the schools included in this comparison were several with facilities for boarding. For this comparison, the students were divided into two groups, (1) those whose homes were less than six miles and (2) those whose homes were six miles or more from the schools attended. This division was made rather arbitrarily out of regard for what seemed to be a reasonable maximum one-way distance for daily travel between home and school.¹ When the distance

¹ The total number of students represented in this comparison is 1,399. For 1,044 of these the schools attended were less than six miles from home, 29.7 per cent being farther from a public high school than from the private school, 18.3 per cent at the same distance from a public high school, and 51.9 per cent at a shorter distance from a public high school than from the private school. For the remaining 355 students, the schools attended were six miles or more from home, 1.4 per cent being farther from a public high school, 4.2 per cent at the same

is less than a reasonable maximum for daily travel, the problem of facilities for boarding does not arise, a problem with which authorities in charge of public high schools infrequently concern themselves.

Judging from the evidence in Figure 4, we cannot doubt the fact of preference for private schools on the part of those who

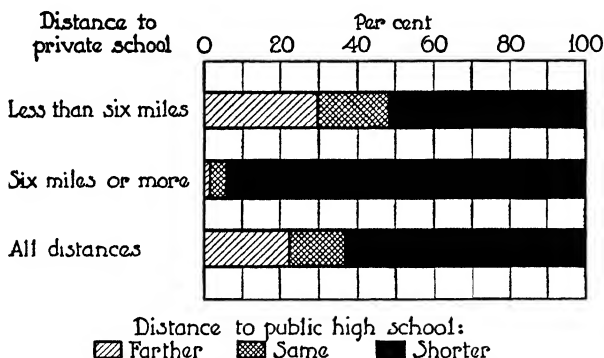


FIG. 4.—Percentages of students in private secondary schools who would be going farther, the same distance, and a shorter distance, if they attended the nearest public schools.

patronize them. More than seven in ten of these attendants who live less than six miles from these schools either go farther than or just as far as would be required to attend a public high school, and less than three in ten could bring up the argument that the private school is nearer home.¹ The actual degree of accessibility of the public high school to those whose homes are six miles or more from the private schools is not depicted in Figure 4, but it may be stated as a certainty that for almost

distance from a public high school, and the remaining 94.4 per cent at a shorter distance from a public high school than from the private school.

¹ It will be shown below that the proportion actually giving this as a reason is much smaller.

five in ten of these there was a public high school less than two miles from home and for almost eight in ten a public high school less than six miles from home, the distance already suggested as a reasonable maximum one-way distance for daily travel between home and school.

With the fact of preference for the private schools on the part of those who patronize them established, we next turn to the grounds of that preference. In some part, the "reasons" for attendance may be ascertained directly by a question put to the students. Chiefly, however, the motives for this patronage must be disclosed by a study of the students and of their parents—of the students because it is impossible to separate "why" from "who," and of parents because the home is a dominating factor in the make-up of the child and because parents' preferences largely, even if not universally, determine what school the child attends.

STUDENTS' REASONS FOR ATTENDANCE

Perhaps our best first approach to the whole problem of who attends the private secondary schools and the reasons for such attendance is a study of the answers students themselves give to the question, "Why do you attend this school rather than some other?" This question was asked of approximately 3,500 students in the schools represented in this study, of whom more than nine in every ten made intelligible answers. Although it may be quite properly assumed that these answers cannot always be accepted at their face value, they provide a point of departure and suggest a number of questions to be investigated by other and more reliable procedures. At the same time, even though the responses are in some instances naïve or even incorrect, it will be found that they reflect with some faithfulness the reasons that would come from the homes if pains were taken to obtain these. The inner testimony of

this particular study gives the findings a good deal of authenticity.

Although many students gave more than a single reason, the first reason only in each response to the question was considered, in the belief that this would be the most important. In giving directions for filling the space on the blank on which this question, among a number of others, was asked, the suggestion was usually made to set down the first answer that came to mind. There were in excess of two thousand answers for the group of Roman Catholic schools, almost five hundred for the Scandinavian schools, and more than the latter number for the independent group. The percentages in Figure 5 are based on the answers for each group considered separately.

There is a remarkable contrast between the Roman Catholic and Scandinavian schools on the one hand and the independent schools on the other in the proportions giving the religious character or connection of the school as the reason for attendance (item 1 in Figure 5). The usual answer here included reference to a denomination, as, "It is a Catholic school" or "It is a Lutheran school." Even for the denominational schools of the independent group—it may be recalled from chapter i that there were four such schools—there was a total of only three references classifiable under this reason.

"Parents' preference" (item 2) is a type of response largely meaningless in itself, even when, as some students reported, they were "sent" to the institution by father, by mother, or "by parents." Probably it is correct to assume that the reasons behind the parents' preference are the other reasons in the complete list, at least the prevailing ones. In the case of this item, for the Catholic and Scandinavian schools this means religious or denominational preference, and, for the independent schools, certain remaining reasons in the full list.

Under "Better school" (item 3) have been generalized a

number of types of answers, some including these words specifically, others referring to the scholastic standing of the insti

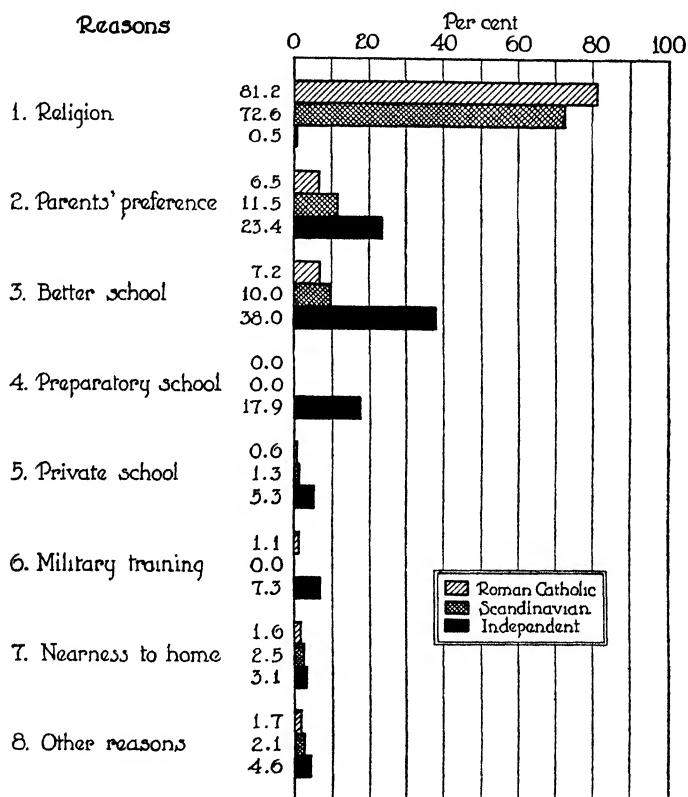


FIG. 5.—Percentage distribution of reasons given by students in the three groups of private schools for attending the schools in which they are enrolled rather than some other school.

tutions represented, to the excellence of teaching, or to the better material facilities. There is good ground for the statement that the comparison in the mind of the student responding is usually with the public high school, especially for this

particular group of responses. It is true likewise for the next item, "Preparatory school" (item 4) with which, as will be seen later in the chapter, those attending Catholic and Scandinavian schools are not as much concerned.

The proportions are small for all remaining reasons, although they are in each case largest for the independent schools. To be merely "private" seems at times to be enough to make a school preferable to some of its patrons (see item 5), perhaps with the implication of exclusiveness. The military feature (item 6) would have been found to be commended much more often if second reasons had been counted, as it was frequently mentioned with some other reason, as "Catholic and military" or "high scholastic standing and military." "Nearness to home" (item 7) is sometimes given as a reason, but is offset by an occasional student in a school with boarding facilities who reports that he is in that school because of the advantages of attendance away from home. This last reason helps to make up the total of "Other reasons" (item 8), which varied widely in character. Among the more frequent reasons in this group were better individual attention in small classes (somewhat characteristic of the independent schools), boarding school (occasionally mentioned in connection with the absence of mother or father in the family), and segregation (in boys' or girls' schools). Less often the student reported that it was his "personal preference," that he was "kicked out" of public high school (boys only), or that he "needed a change." Among scattered but interesting even if not always gracious responses, sometimes not classifiable as reasons, were "I just have to hang out at this dump," "Because it's a jail," "It isn't my fault," "Haven't the slightest idea," "Don't ask me," "I have often wondered," "No one knows," and "None of your business."

An attempt to generalize from these student responses would place the religious or denominational connection high among the determinants of attendance at Roman Catholic and Scan-

dinavian schools, and the preference for a superior college-preparatory education in a private (sometimes exclusive) school as dominant for independent schools. Religious or denominational preference seems not to be significant in this third group of institutions.

DENOMINATIONAL PREFERENCES OF PARENTS
AS A DETERMINANT

With religion or denomination standing out prominently for two of the three groups of schools, at least in the reasons given by students for attending the particular schools represented, this should be among the first of the factors whose influence should be examined into more extendedly. This will be accomplished by reporting a study of the church memberships or preferences of fathers and mothers of the same students. The distribution of these denominational memberships or preferences was first obtained for each school, the tabulation including the frequency with which *both* parents were of the same denomination or of different denominations. The final step in computation ascertained the percentages of students both of whose parents were of the denomination most frequently represented in the school. It was considered proper to include with these students those who had only one surviving parent, either father or mother, who was of this most frequent denomination. All remaining students were included in a single group, even though there would have been some justification for ascertaining the number and percentage of cases in which at least one of the parents, when both were still living, was of the most frequent denomination. For the purpose of this analysis it was found desirable to subdivide the Roman Catholic schools in Figure 6 into three groups, the coeducational, the boys', and the girls' schools.¹

¹ Data for 3,559 students in 39 different schools are represented: in Roman Catholic coeducational schools, 537; in Roman Catholic boys' schools, 595; in

For all the schools of the first three groups the parental denomination of greatest frequency, as those conversant with schools of this type will know, is Roman Catholic. There is

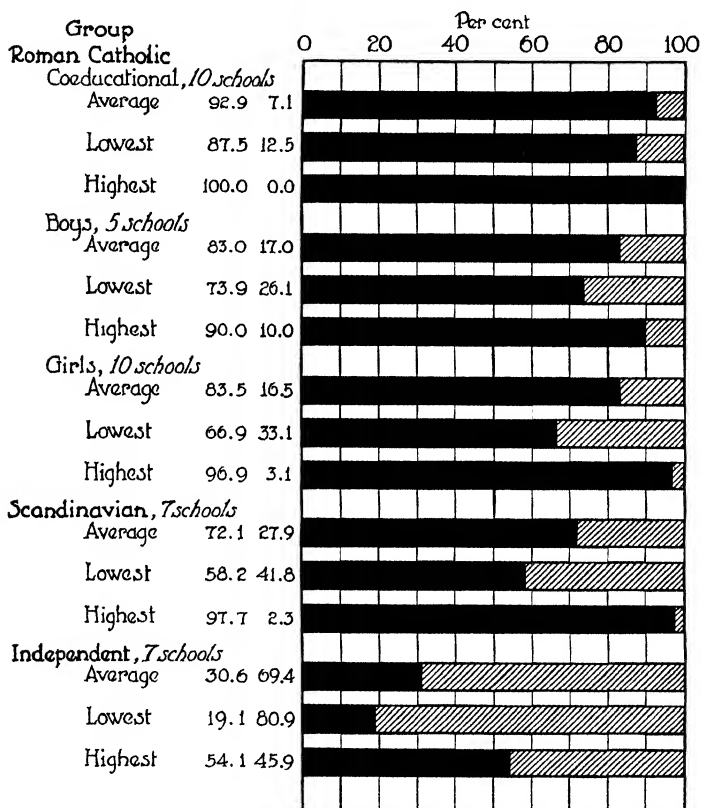


FIG. 6.—Percentages of parents of largest numerical denominational frequency in Roman Catholic, Scandinavian, and independent secondary schools (black, percentage of largest numerical frequency; shaded, other denominational memberships or preferences).

Roman Catholic girls' schools, 1,273; in Scandinavian schools, 520; in independent schools, 634.

some variation from group to group. The largest average proportion is that for the coeducational schools, which are all in small towns in which denominational lines appear to be more closely drawn. It may also be that segregation in separate schools, which is usually feasible only in the larger centers of population, appeals sufficiently to break down in part the barrier of denominationalism and thus to account for the larger percentages from outside the prevailing denomination in the Catholic boys' and girls' schools. The limits of the ranges in these percentages (from the lowest to the highest) in these three groups of Catholic schools is in harmony with the differences between the averages. For the coeducational schools the lowest percentage was 87.5 and the highest 100.0, making a range of 12.5 per cent. The range is larger than 12.5 for both remaining Catholic groups, and the lowest and highest percentages in both these groups are lower than for corresponding schools in the coeducational groups. The general impression is unequivocally one of a high degree of regard for denominational lines in the make-up of the enrolment.

Of the seven Scandinavian schools represented, one had Baptist, one had Mission, and five had Lutheran connections. In the case of each school most of the students came from homes of the same denomination as that of the school, the average falling a little short of three-fourths of students from such homes. The lowest drew almost three-fifths and the highest almost all students from homes of corresponding denominations. However, although these proportions are high, denominationalism seems not to be quite as influential as in the Catholic schools.

In the seven independent schools represented in Figure 6 are three operating under denominational affiliations (two Episcopal and one Baptist) and four that are without denominational label. The average percentage of greatest denomina-

tional frequency for this group is shown to be 30.6, and the range was from 19.1 to 54.1, that is, from almost a fifth to somewhat more than half. The averages for the denominational schools and the strictly independent schools in this group—averages not shown in the figures—were almost identical, being respectively 34.3 per cent and 34.5 per cent. It is worth noting that for a school with Baptist affiliations the percentage of boys from homes of the same denomination is only 10.3, the lowest percentage for this group, whereas the percentage from Presbyterian homes is 19.3—almost twice as great. The relatively small proportions from homes of corresponding denominations in these three schools with denominational affiliations should to some extent justify grouping them with those more strictly independent denominationally.

The likelihood that the influence of size of community and sex segregation subtracts from the influence of denominationalism as a determinant of attendance upon private schools has already been touched upon. Nothing, however, has been said concerning any possibility of reduction by providing facilities for boarding students. We may conclude from the evidence of an inquiry on this point in the investigation that if this influence is operative it is not highly significant. For three schools with these facilities in the group of Catholic girls' schools the percentage of students from Catholic homes outside the city of location was 89.2. For one Catholic boys' school, which includes also the special additional appeal of military training, the percentage was 84.8. For Scandinavian boarding schools the percentage was scarcely less for boarding students than for all students. Denominationalism has been seen to be of so little influence in schools here classified as independent that have church affiliations that it is difficult to identify all the many factors that have doubtless co-operated in reducing this influence to its present small proportions, but it seems safe to accept the provision of boarding facilities as one of these.

In the absence of evidence concerning denominational memberships and preferences of students of public high schools in Minnesota, it will be illuminating to draw for purposes of comparison on a study of denominational memberships and preferences of mothers of students in public and private junior colleges made by the present writer from data gathered in such institutions during the school year 1921-22.¹ In fifteen public junior colleges, the "most common" denomination of the mother was found to be Methodist in eight institutions, Presbyterian in three; Catholic in two; Lutheran in two. The average percentage of mothers in these most common denominations was 27.9. The range was from 20.4 per cent to 36.1 per cent. For seven private junior colleges with denominational affiliations the average percentage was 51.1. Among these seven institutions were two—one affiliated with Christian Scientists and the other with Latter Day Saints—with percentages of corresponding preference very similar to those reported above for Catholic schools. When these are omitted, the percentage drops to 38.9, which is not far from the average percentage for the most frequent denomination in the groups of independent secondary schools of Minnesota. Although the two measures, percentage of homes of most frequent denomination and percentage of mothers of most common denomination, could hardly be identical and perhaps are not directly comparable, they may be assumed to be sufficiently so to warrant the conclusion that denominationalism is a highly influential determinant of attendance for relatively few church groups; it is particularly so for the Roman Catholic, for the Lutheran when associated with some ethnic group of recent European origin, and perhaps an occasional additional one with strong denominational consciousness. For most Protestant denominations its influence has waned.

¹ Leonard V. Koos, "The Junior College." Research Publications of the University of Minnesota, May, 1924. Pp. 544-45.

TYPES OF ELEMENTARY SCHOOLS COMPLETED BY STUDENTS
IN PRIVATE SECONDARY SCHOOLS

Inquiry into the types of elementary schools from which the students in private secondary schools have transferred discloses contrasting sources for each of the three main groups of private schools. Combining the percentages from elementary schools connected with the Catholic secondary schools and other private schools—presumably also under Catholic

TABLE V
NUMBERS AND PERCENTAGES OF STUDENTS IN THREE GROUPS OF PRIVATE
SECONDARY SCHOOLS COMPLETING CERTAIN TYPES
OF ELEMENTARY SCHOOL

TYPES OF ELEMENTARY SCHOOL COMPLETED	ROMAN CATHOLIC		SCANDINAVIAN		INDEPENDENT	
	Number	Percent- age	Number	Percent- age	Number	Percent- age
Same private school	550	23.5	8	1.6	190	30.3
Another private school	1,204	51.5	1	0.2	121	19.3
Graded public school	385	16.5	271	55.1	303	48.3
Rural school	199	8.5	189	38.4	9	1.4
Foreign country	1	0.0	23	4.7	4	0.6
Governess	1	0.0		..		
Totals	2,340	100.0	492	100.0	627	99.9

auspices—makes a total of three-fourths continuing from these sources. The remaining fourth transfer from public graded or rural schools. On the other hand, almost negligible proportions of the students in the Scandinavian groups come from private schools: almost all come from the two types of public schools. In the independent group the students come in almost equal proportions from private and public elementary schools. The contrast between the first two groups is explained by the fact that the Catholics seem to have aimed at providing a complete education for their communicants, from elementary school through college, whereas the Scandinavian groups ap-

pear not to have projected any comparably complete system. In the independent group neither the preference for private nor that for public elementary education is in the ascendancy.

DECEASED PARENTS AS A FACTOR OF ATTENDANCE

The opinion is frequently ventured that private schools, especially those with boarding facilities, render a distinctive service for students from "broken" homes, that is, homes disrupted by the loss of parents through death or divorce. Although it is not expedient to inquire of students concerning the status of parents with respect to divorce, it is possible to ascertain whether the father or mother or both parents are living. Certain of the results of a tabulation of responses to this question are presented in Figure 7. The groups represented are the following: (1) boys from outside the community of location of the schools with boarding facilities (designated in the figure as "non-local boys in boarding schools"), (2) girls from outside the community of location, (3) all students in day schools (schools not maintaining boarding departments), and (4) students of both sexes in public high schools. Non-local students were separately studied because it should be among these particularly that students from homes disturbed by the death of one or both parents would be found, if the opinion referred to is substantiated by the facts. The data reported for day schools relate to private day schools only and do not distinguish between boys and girls. The data for public high schools are those reported by Counts for Bridgeport, Connecticut, Mt. Vernon, New York, St. Louis, and Seattle.¹ There is no occasion to believe that the percentages for public high schools in other cities, say those of Minnesota, would be strikingly different than those drawn from Counts's study. We may note in pass-

¹ George S. Counts, *The Selective Character of American Secondary Education*. Supplementary Educational Monograph No. 19. University of Chicago, 1922. Table XXXIV, p. 96.

ing that Counts estimates that among children of high-school age (whether or not they are enrolled in school) the percentage of those who have lost one or both parents by death is as least 24.¹

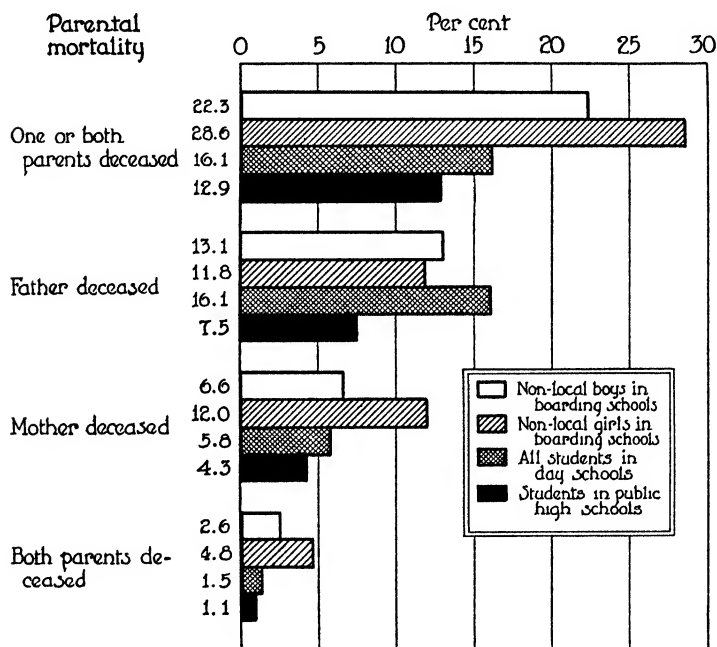


FIG. 7.—Percentages of students in private and public secondary schools with one or both parents deceased.

The evidence presented supports the opinion under consideration. With one exception the percentages are larger for these non-local students than for the day-school students. This exception is the percentage in private day schools with fathers deceased, which is probably to be explained by the desire to compensate for the loss of the father by having the child bene-

¹ *Ibid.*, p. 97.

fit by additional care presumed to be afforded by schools under denominational or other private auspices. In this connection it may be pointed out that the percentages for public schools are consistently smaller than for the three other groups. If data were at hand concerning homes broken for reasons other than death, the differences would without doubt have been even larger. The conclusion is amply supported that, until public high schools can provide the facilities necessary for this service, this is a tenable argument in support of private schools, at least of those with boarding facilities.

THE NATIVITY OF PARENTS

Certainly no study of students in private schools would be complete that did not include consideration of the nativity of the parents of those students, in order to ascertain the proportion of native-born and of foreign-born, as well as the distribution of foreign-born parents to the various countries. This problem was investigated for fathers and mothers separately, but because of the high degree of similarity of the distributions for the two sexes, data for fathers only are here considered.

Noting first the percentages of native-born fathers in Figure 8, it is seen that they were 77.3, 40.2, and 88.3 for Roman Catholic, Scandinavian, and independent schools, respectively. Lacking analogous data concerning students with foreign-born fathers in public high schools, we may compare with these percentages the percentage of native-born males in Minnesota as computed for the Federal census of 1920. This was 77.6. We can not assume that the percentage of native-born fathers of students in public high schools would correspond with this figure. In all probability it would be somewhat higher. But it will at least help to an understanding of the sources of students in private schools. The percentage for Catholic schools is almost identical with that just mentioned, that for Scandinavian

34 PRIVATE AND PUBLIC SECONDARY EDUCATION

schools is smaller by almost half, and that for independent schools is much larger.

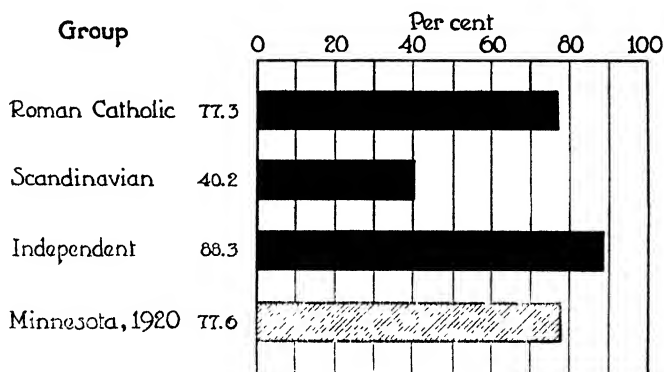


FIG. 8.—Percentages of native-born fathers of students in certain groups of private schools, and percentage of native-born males in Minnesota, 1920.

TABLE VI

NUMBERS AND PERCENTAGES OF FATHERS OF STUDENTS IN CERTAIN GROUPS OF PRIVATE SCHOOLS AND PERCENTAGES OF MALES IN MINNESOTA OF NATIVE OR OF FOREIGN BIRTH

COUNTRY OR SECTION OF BIRTH	GROUP OF SCHOOLS						PER- CENT- AGE OF MALES IN MINNE- SOTA
	Roman Catholic		Scandinavian		Independent		
	Number	Percent- age	Number	Percent- age	Number	Percent- age	
United States	1,778	77.3	202	40.2	558	88.3	77.6
Canada	116	5.0	4	0.8	22	3.5	1.5
England and Scotland	22	1.0		....	21	3.3	0.7
Ireland	76	3.3		....	3	0.5	0.4
Sweden, Norway, Denmark	19	0.8	287	57.2	14	2.2	10.0
Germany	149	6.5	7	1.4	10	1.6	3.3
Poland, Austro-Hungary, Italy	104	4.5			1	0.2	2.0
All other foreign countries	36	1.6	2	0.4	3	0.5	4.5
All foreign countries	522	22.7	300	59.8	74	11.7	22.4
All countries	2,300	100.0	502	100.0	632	100.1	100.0

This leaves as foreign-born, as Table VI discloses (in the horizontal row next from the last), 22.7 per cent of fathers of students in Roman Catholic schools, 59.8 per cent in Scandinavian schools, and 11.7 per cent in independent schools. In comparison, 22.4 per cent of the males in Minnesota in 1920 were foreign-born. The same table reports also the percentages for each of the foreign countries or groups of foreign countries represented with any large frequency in the data, as well as the percentage from all other foreign countries in a single group. In scrutinizing these percentages it will be illuminating to make comparisons between those for each group of schools and those for all males in Minnesota according to the census. For the Catholic group the larger percentages are those for Canada (in most cases fathers who are French Canadians), Ireland, Germany, and three countries in Eastern and Southern Europe, namely, Poland, Austro-Hungary, and Italy. For each of these countries or groups the percentages are much larger than for the corresponding group of males in the state, which makes it clear, from what we know of the denominational make-up of these countries, that foreign parentage and denomination combined are operating to determine the students' attendance in this group of schools.

This combination of factors is even more clearly discernible in the Scandinavian schools, almost three-fifths of whose students report fathers of Scandinavian parentage or fathers from countries dominantly Lutheran or of related denominations. The Scandinavian schools depend largely on this combination of elements of ethnic make-up as the source of their student body.

That the proportion of students with foreign-born fathers in Catholic schools in Minnesota as here reported is not representative of all sections of the country in this regard is apparent in the evidence of the unpublished report of a survey of Catho-

lic high schools in the diocese of Cleveland.¹ Among cities besides Cleveland in this diocese are Akron, Canton, Lorain, and Youngstown. The survey report indicates that 40.4 per cent of the students in attendance in the Catholic high schools of this diocese were "of foreign-born parents" (while 67 per cent of the children in Catholic elementary schools were of foreign parents). This is a reflection of the foreign-born elements in the population, as may be illustrated by evidence concerning Cleveland. In this city, according to the census of 1920, the first eight sources of foreign-born population (in order from the largest percentage downward) were Poland, Hungary, Germany, Russia and Lithuania, Czechoslovakia, Italy, Jugoslavia, and Austria. These sources accounted for more than three-fourths of the foreign-born in Cleveland. Without canvassing all the detailed relationships, we may infer that in the patronage of Catholic high schools of this diocese the combination of foreign parentage and denomination is almost as influential as in the Scandinavian secondary schools of Minnesota, and much more so than in the Catholic secondary schools of that state. The proportions for the diocese of Cleveland may be more nearly characteristic of most of the industrial cities of the East and Midwest in which there are large proportions of foreign-born Catholic communicants.

For the independent schools in Minnesota the percentages of children of fathers born in the several foreign countries represented in Table VI are remarkably small, except for Canada and England and Scotland, for which they exceed notably the percentages of males in the population. Those reported for Canada are in only a few instances from among French Canadians, most of them emanating from other groups. A fact not shown here or elsewhere in this chapter is the large

¹ Citation made through courtesy of Dr. Francis M. Crowley, formerly secretary of the Bureau of Education of the National Catholic Welfare Council.

proportion of these fathers of Canadian, English, or Scotch extraction reported as Episcopalians, especially for the two schools with Episcopal affiliations, a fact which shows that even for this group of independent schools there is some, even if not a large, extent of this composite ethnic influence, that is, of foreign parentage and denomination. On the other hand, these schools almost certainly enrol smaller proportions of students of foreign-born fathers than do public high schools.

If one ventured a prediction of the future of these private schools as far as it is affected by this factor of foreign parentage of their students, one must do so in terms of a tendency toward increase or decrease in the numbers of foreign-born. By comparing the numbers in Minnesota from foreign countries as reported in the censuses of 1910 and 1920, large decreases are found for Canada, Norway, Sweden, Germany, and Austria, and some decrease for Poland. Should the decrease continue, the group of schools most influenced will be the Scandinavian, so much so that their future existence is in hazard. Those on Roman Catholic foundations will be in some measure influenced, but not vitally unless a decrease is brought about by attenuation of the influence of the combination of ethnic factors with the succession of generations more and more remote from foreign birth. Although data in its support are not at hand from the present study, it is not difficult to entertain the belief that the second generation is somewhat influenced by these factors—less so than the first but more so than the third.

THE LANGUAGE ORDINARILY SPOKEN IN THE HOME

In a sense, inquiry into the language ordinarily spoken in the home is supplementary to the study of the nativity of parents on which materials have been presented. In almost all cases the homes in which a foreign language is ordinarily spoken either alone or with English are homes with foreign-born

parents or parents otherwise not remote from influences of the country of extraction.

The results of a compilation of the answers to the question relating to the language ordinarily spoken in the home supplied by the students in the private schools represented are presented

TABLE VII

PERCENTAGES OF STUDENTS IN THE DIFFERENT GROUPS FROM HOMES IN WHICH ENGLISH ONLY, ENGLISH AND SOME OTHER LANGUAGE, OR SOME OTHER LANGUAGE ONLY IS ORDINARILY SPOKEN

GROUPS OF SCHOOLS AND STUDENTS	ENGLISH		ENGLISH AND SOME OTHER LANGUAGE		SOME OTHER LANGUAGE ONLY		TOTALS	
	Number	Percent- age	Number	Percent- age	Number	Percent- age	Number	Percent- age
Roman Catholic: Coeducational.								
Boys	173	84.0	6	2 9	27	13 1	206	100 0
Girls.	319	91 4	8	2 3	22	6 3	349	100 0
Segregated:								
Boys.	533	88.8	50	8 3	17	2 8	600	99 9
Girls.	1,057	95 5	20	1 8	30	2 7	1,107	100 0
Scandinavian.								
Boys	90	48 6	68	36 8	27	14 6	185	100 0
Girls.	144	43.6	146	44 2	40	12.1	330	99 9
Independent:								
Boys.	421	98.6	5	1.2	1	0 2	427	100 0
Girls.	202	98 1	4	1 9	.....	.. .	206	100 0

in Table VII. A glance down the column of percentages of students in homes in which English only is ordinarily spoken shows only one of the larger groups—the Scandinavian—with less than a majority. In all others the proportions are very large. There are, nevertheless, notable differences between the percentages for Catholic and for independent schools. For Catholic schools the proportion of homes in which English only is ordinarily spoken are appreciably less than 100 per cent

of all, but for the group last named it is exceedingly infrequent for any language other than English to be reported.

Consideration of the foreign languages spoken, whether alone or with English, finds those reported by students in Catholic schools to be chiefly German, Polish, Bohemian, Italian, and French (by those of French-Canadian parentage). These correspond, except for the omission of the Irish (known to speak English), with the foreign-born ethnic groups with larger proportions in the distribution by nativity of the fathers of students in Catholic schools (see Table VI in the foregoing section). This was to be expected. The languages other than English reported by students in Scandinavian schools are, to be sure, almost always either Norwegian or Swedish. We may note as significant the fact that reports from individual schools are almost exclusively either Norwegian or Swedish: there is scarcely any representation of Norwegian in schools dominantly Swedish and little representation of Swedish in schools dominantly Norwegian. These lines seem to be rather strictly drawn.

Perhaps the reader has noted the larger percentages of girls than of boys from homes where English only is spoken in Catholic schools of both the coeducational and segregational types—a difference both consistent and large enough to be significant. A plausible explanation of the difference is the tendency of certain ethnic groups not to give their daughters the benefit of a secondary education as often as this is done for their sons. Counts has shown these to be homes in which fathers are from Austria-Hungary, Italy, and Poland.¹ These are just the groups in which Catholics predominate. It is not, therefore, difficult to understand why the homes in which English is ordinarily spoken are more largely represented in the reports from girls than in those from boys in Catholic schools.

¹ *Op. cit.*, p. 113.

THE ECONOMIC AND SOCIAL STATUS OF FATHERS

One of the last as well as one of the most significant descriptions of students by means of describing their fathers to be undertaken in this chapter relates to the occupational groups under which they are classifiable. The basis of classification is one first used by Counts.¹ The order of grouping is roughly, but not accurately, that of the economic status of the occupational divisions represented. Counts states that the aim was "to get classes of reasonable homogeneity, from the standpoint of social status, position in the economic order, and intellectual outlook."² The procedure in tabulation revealed no difficulties not already made clear in his report. The sole difference in grouping was the merging of certain smaller groups into two larger ones, namely (1) combining "commercial" and "clerical" into a single group and (2) placing "artisan-proprietors," "building trades," "machine trades," "printing trades," "miscellaneous trades," "transportation service," "public service," "personal service," "miners, lumber-workers, fishermen," and "common labor" in a large composite group designated as "manual labor." This procedure without doubt covers up certain differences among the groups, but it has the advantage of reducing the number of groups without destroying the essential significance of the comparisons. The most disturbing combination is that of merging "commercial" and "clerical," the damage to the comparison being minimized by the typically small proportions of "clerical" workers in the groups studied here and the additional fact that economically the two subgroups overlap.

Opportunities for direct comparisons of the several groups of schools, sexes being considered separately, are afforded in Table VIII and Figure 9. The figure is based on the percentages in the table, the sole exception being the omission from

¹ *Ibid.*, chaps. iii-ix.

² *Ibid.*, p. 22.

TABLE VIII
NUMBERS OF PERCENTAGES OF FATHERS OF STUDENTS IN PRIVATE AND PUBLIC SCHOOLS
IN CERTAIN GROUPS OF OCCUPATIONS

GROUP	1 PROPRIETARY		2 PROFESSIONAL		3 MANAGERIAL		4 COMMERCIAL AND CLERICAL		5 AGRICULTURAL		6. MANUAL		7 UNKNOWN	
	Number	Percent- age	Number	Percent- age	Number	Percent- age	Number	Percent- age	Number	Percent- age	Number	Percent- age	Number	Percent- age
Roman Catholic.														
Coeducational,														
Boys (187)	33	17 6	2	1 1	4	2 1	17	9 1	73	39 1	49	26 2	9	4 8
Coeducational,														
Girls (273)	36	13 2	4	1 5	4	1 5	8	2 9	151	55 3	55	20 1	15	5 5
Segregated,														
Boys (603)	133	22 1	39	6 5	44	7 3	70	11 6	29	4 8	232	38 5	56	9 3
Segregated,														
Girls (1,343)	246	18 3	55	4 1	138	10 3	183	13 6	238	17 6	351	26 1	132	9 8
Large Urban,														
Boys (480)	117	24 4	34	7 1	41	8 5	62	12 9	13	2 7	170	35 4	43	9 0
Large Urban,														
Girls (874)	178	20 4	46	5 3	125	14 3	158	18 1	42	4 8	226	25 9	99	11 3
Scandinavian.														
Coeducational,														
Boys (188)	20	10 6	23	12 2	8	4 3	8	4 3	79	42 0	43	22 9	7	3 7
Coeducational,														
Girls (332)	39	11 7	40	12 0	12	3 6	8	2 4	159	47 9	63	19 0	11	3 3
Independent:														
Segregated,														
Boys (429)	241	56 2	81	18 9	45	10 5	18	4 2	11	2 6	7	1 6	26	6 1
Segregated,														
Girls (207)	114	55 1	53	25 6	22	10 6	7	3 4	1	0 5	2	1 0	8	3 9
Urban public:														
Boys and Girls														
combined														
(13,924)	2,672	19 2	1,364	9 8	2,280	16 4	2,183	15 7	356	2 6	4,599	33 0	470	3 4

the figure, owing to difficulties in reproducing them, of the proportions for occupational groups including less than 2 per cent of the cases. The figure is designed to show to the left of the heavy central vertical line the proportions in the first three occupational groups of the table, namely (1) proprietary, (2) professional, and (3) managerial, and to the right of this line the three remaining groups, namely (4) commercial and clerical, (5) agricultural, and (6) manual, besides the proportion of "unknown." The separation of the groups at this point is somewhat arbitrary, as there can hardly be any sharp economic, social, or intellectual line drawn at any point in the distribution. Nevertheless, it should prove helpful in the work of comparing distributions for the several groups of schools. A major weakness perhaps is the place of those in agricultural service, of whom in some groups there are large proportions. With only occasional exceptions these are farm owners, some of whom would compare favorably with many of those in the proprietary and commercial and clerical groups.

Special reference should be made to the groups of schools represented. It has already been recorded elsewhere in this book that the Catholic coeducational schools are all in smaller communities and the segregated in larger ones. To enhance the value of some of the comparisons, a special group has been made of the Catholic segregated schools found in the Twin Cities and Duluth. These are designated as "large urban" in the table and figure, "large" referring to the communities of location rather than the schools. Because of the small size of the group it was inadvisable to separate the Scandinavian schools in this way. It was unnecessary to separate the independent schools as to size of city of location, because even though three were in smaller communities the students were drawn largely from large urban centers. The "urban public" schools represented are those in St. Louis and Seattle included in Counts'

investigation.¹ Although data for the Twin Cities would not disclose identical distributions, the percentages for St. Louis

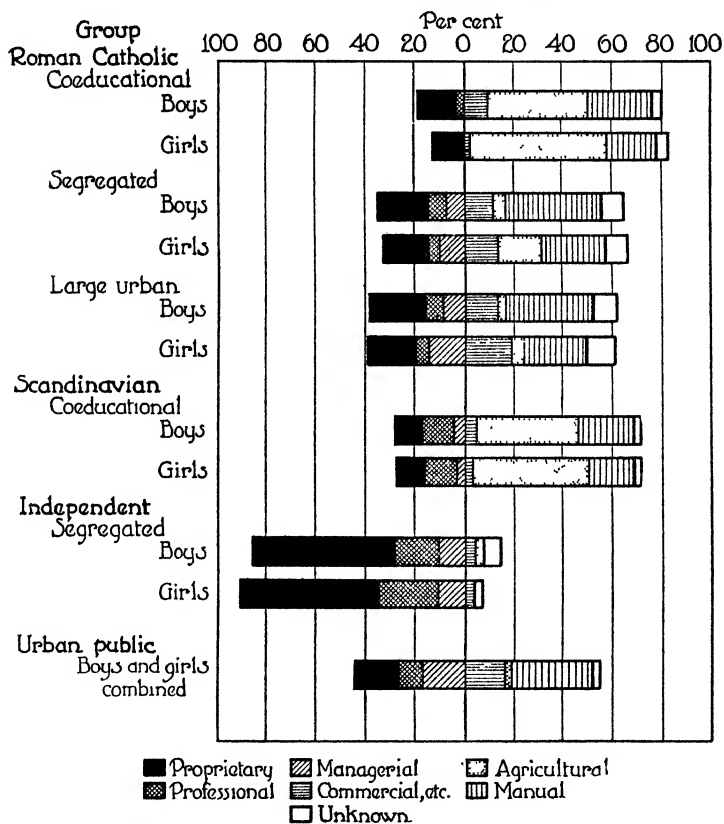


FIG. 9.—Percentage distributions to the various occupational groups of the fathers of students in private and public secondary schools (occupational groups represented by less than 2 per cent of fathers omitted from the figure).

and Seattle could hardly be sufficiently different in these large occupational groupings to invalidate any conclusions drawn as to differences between private and public schools.

¹ *Ibid.*, p. 26.

It will assist to an understanding of the distribution depicted in Figure 9 to make all comparisons with the urban public group of students, who, when we disregard the students the occupations of whose fathers are unknown, are found in something like equal proportions on either side of the central dividing line: the percentages with known occupations on the left and right of this line are respectively 45.4 and 51.3. There is a striking difference between this distribution and those for the Catholic coeducational schools. This is in no small part accounted for by the large proportion in this Catholic group coming from farm homes. This proportion would almost certainly be larger than for the typical public high school in communities of the same small size as those in which these Catholic coeducational schools are located. Since almost all fathers reported as farmers are farm owners, one is justified in asking whether many are not economically on a higher level than are some of the proprietors, professional workers, or those in commercial and clerical service, either in this group of schools or others in the comparison. The larger percentage of those from farm homes among the girls than among the boys may to some extent be explained by the preference of immigrants from certain countries for life in town and city and of those from other countries for life on the farm. Among the first group are Italians, Polish, and Irish, and among the second group are Germans.

When we come to the group of Catholic segregated schools we find a strong shift to the left of the central line, accounted for by a diminution in the proportion of fathers in agricultural service—a natural accompaniment of the location of schools in larger communities. Consideration separately of the schools of this group located in the Twin Cities and Duluth (the third pair of bars in the figure) finds the shift accentuated, with the total proportions on either side of the central line not remark-

ably different from that for the urban public group. The distributions to the several occupational groups, however, differ somewhat; for example, the proportion of proprietors is larger and the proportion of professional workers smaller for the "large urban" Catholic schools.

There is, to be sure, variation from school to school within such a large group as these Catholic institutions comprise. The highest proportion in the first three classifications of occupations found for an individual Catholic school was that for one school for girls in which this proportion was only a trifle short of two-thirds of all students. This is far in excess of the typical proportion for Catholic schools.

In the Scandinavian schools we revert to a distribution rather similar to that for Catholic coeducational schools, with large proportions of farmers and small proportions to the left of the central line. The relatively large proportions of fathers in professional service are explained by pastors of the same denominations as those under whose auspices the schools are maintained.

In the distributions for the independent schools we find the most impressive contrast in the whole comparison. Practically all the fathers of students in these schools are in the groups at the left of the central line, or in the first three classifications, namely, proprietary, professional, and managerial. The proportions in the remaining groups, as Table VIII discloses, are practically negligible. The contrast would be even more striking than as shown if the occupational groups could be studied internally, at least with respect to income, for among the surnames of students are many that are identical with the outstanding economic leaders of the Twin City community. There are those who would suggest that this economic selection results from the fees charged. Whatever these may be in absolute terms, there is no doubt that they are much higher than

for schools in the other private groups, and it is not unlikely that these fees are somewhat responsible for the selection shown. On the other hand, it seems more probable that the fees are more a result than a cause, a result occasioned by the demand of a well-to-do clientèle for an education typically better, certainly more specialized in college preparation, and more "exclusive" than can at present be provided under public auspices.

In a study of the occupations of fathers of students in Phillips Exeter Academy and in the University of Chicago High School, Counts found 85.2 per cent in the first three classes of occupations as here classified.¹ This proportion is about that in the same classes in the independent group of schools of the present study.

A writer on the specific topic under consideration would probably never be excused for omitting reference to the varying degrees of democratization represented in the different occupational distributions of which the interpretation has just been essayed. There could be no argument that the distribution for the independent schools just examined is as representative of the populace generally as are the others. If a judgment is to be ventured on the other groups of private schools in comparison with the public, it might be that in this sense of representativeness of the populace these private schools may be fully as "democratic" as the public, because of the probably equal proportions of students from the lower economic classifications. However, in conflict with democratization of this type is the need of a democratization that will make for the integration of our American society. The friends of an integrated American society will be disposed to deplore the segregation of the secondary-school population in separate schools, whether these schools are set up to accommodate the children

¹ *Ibid.*, p. 136.

of the well-to-do or those who are born into strict denominationalism supported in greater or less degree by ethnic influences of foreign nativity.

NUMBERS OF CHILDREN IN THE FAMILIES REPRESENTED

A descriptive element somewhat related to the economic and social influences represented in the foregoing comparison is the size of the family, or, what is specifically considered here, the number of children in the family. The question from whose answers compilations were made was "How many sisters and brothers have you?" It was necessary only, for the purpose here, to add one to the number reported to obtain the number of children in the family. A single measure of central tendency for each group—the average—was computed. The averages, correct to tenths, for Catholic schools and for Scandinavian schools were identical, being 4.9, or almost 5. The average for independent schools was 2.7—more than two children less than for the first two groups. Counts gathered data along the same line for the public high schools represented in his study, and, although he computed medians instead of averages, he reports also the original distributions,¹ from which it is possible to compute averages for comparison with the averages just reported for our groups of private schools. The average number of children in the families represented by all the students in the high schools of St. Louis and Seattle combined was 3.3. This is somewhere between the averages for independent schools on one hand and Catholic and Scandinavian schools on the other. It can hardly be assumed that the number of children or the size of family determines in any important degree the type of school, private or public, a child from a given family will attend, although it may do so in marginal cases where expensive independent schools are concerned. It is much

¹ *Ibid.*, p. 103.

more reasonable to assume that the number of children is itself a resultant of the same factors that determine the type of school to which parents will send their children. In harmony with this is the explanation ventured by Counts of the larger size of families sending children to sixth grade than of those sending children to the public high school. His statement is that

this difference is not to be construed as meaning that children are kept out of high school because of membership in large families, for the matter is not quite so simple as that. A more reasonable interpretation is that the size of family is being limited by those classes in the population from which most of the high-school students come.¹

THE AGE OF STUDENTS IN PRIVATE AND PUBLIC SCHOOLS

The first respect in which the students in private and public high schools will be directly described—rather than indirectly by describing their parents—is age. A procedure frequently used will be followed, one of reporting the proportions who were under age, of normal age, and over age at the time of inquiry for the grades in which they were enrolled. For purposes of the computations made, a student was counted as “at age” for ninth grade if he was fourteen or fourteen and a half years of age, and he was counted as under age or over age if he was younger or older, respectively, than fourteen or fourteen and a half. For tenth, eleventh, and twelfth grades the normal ages were one, two, and three years older, respectively, than those indicated as normal for the ninth grade.

The percentages of under-age, at-age, and over-age students for each type of school are recorded in Figure 10. The percentages in this figure representative of the public schools were computed from data gathered from a number of smaller school systems of Minnesota and are based on the ages of 11,465 students.² If attention is directed primarily to the percentages

¹ *Ibid.*, p. 104.

² Leonard V. Koos, *The American Secondary School*, p. 67. Ginn & Co., 1927.

of over-age students, it will be noted that this is very large—in excess of half of all students—in the Scandinavian schools. Next follow the group of smaller public schools. Unquestionably this percentage would be smaller for high schools in larger city systems. The percentages in these smaller schools are influenced by the enrolments from rural school districts, pupils

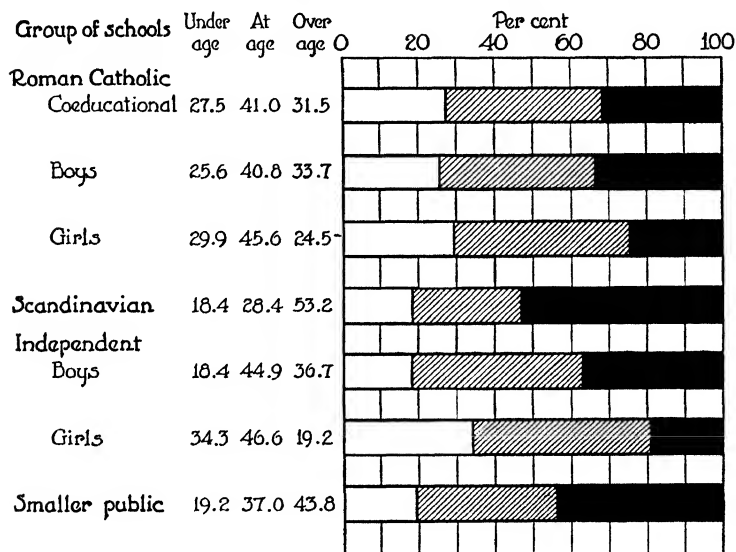


FIG. 10.—Percentages of students in certain groups of schools under age, at age, and over age (in outline, under age; shaded, at age; black, over age).

from which often do not proceed without interruption from the eighth or concluding grade of the rural school to the first year of high school. Following the public group come the independent schools for boys, while the order of declining percentage of over age following these is Catholic schools for boys, Catholic coeducational schools, Catholic schools for girls, and independent schools for girls. An interesting difference is found in the ages of boys and girls in Catholic and independent schools. The contrast is especially remarkable for independent schools.

The proportion of over-age students is so large in the Scandinavian group that it is deserving of special attention. In considerable part this is to be explained by the large number of students for whom there was a lapse of a year or more between completing the elementary school and entering the secondary school. For the three Scandinavian schools the proportion of these delayed continuations included almost two-fifths of all students, some of the lapses extending over three to ten years and some being even longer. This would go far to explain the large proportion of over-age students in this group. The same cause may explain some of the over-ageness in other groups, although there is less of it to explain.

Some of these students in the Scandinavian schools are so well along toward or in maturity that we may be certain they could never be induced to enrol in a public high school, whose attendants in comparison would seem like mere children. In thus providing a place of secondary education free from such embarrassment for these more mature students, this group of schools is rendering a somewhat distinctive service, a type of service much more common in the period of ascendancy of "academies" and "seminaries" than during the present period of more general accessibility of public high schools. This same accessibility, still on the increase, will make for diminishing proportions of these over-age students.

THE INTELLIGENCE OF STUDENTS IN PRIVATE AND PUBLIC SCHOOLS

The rapid development of mental tests in recent years makes possible a description of students and a comparison of schools to which more interest may attach for many readers than to any other in this chapter. A test of this type was administered to almost all¹ students in thirty-six of the private secondary

¹ In two rather large Catholic boys' schools the test was given to an unselected sample of approximately half the students in attendance.

schools represented in this investigation, twenty-three of these being Catholic schools, seven of them Scandinavian schools, and the remaining six independent schools. In most schools the test given was the Miller Mental Ability Test, Form A, but in a few schools where the students had had experience with this particular test, another test, usually the Otis Self-Administering Test of Mental Ability, Higher Form, was used. Because the tests were given over a range of several weeks during the late spring months, and because this fact might make unfair a comparison of raw scores for schools tested late in April with those for schools tested later in the school year, for instance early in June, intelligence quotients were derived for all students and comparisons are made on this basis.

Students in public high schools are represented by data from thirty-two such institutions. The data pertain to Grades IX and XII only. There were seventeen "small" schools, six "medium" schools, and nine "large" schools. Schools were classified as small when they enrolled less than 200 students; large when located in Minneapolis, St. Paul, or Duluth; and medium when enrolling more than 200 students but not in one of these three largest cities of the state. In most of these schools the tests were given especially for this study, but in a small minority of cases data available from other sources were used. These other sources were (1) files of distributions in the office of Professor W. S. Miller of the University of Minnesota, who devised the test, (2) reports of local school surveys made through co-operation of the University of Minnesota.¹ These additional sources applied to small and medium schools only. In all small schools in which the tests were administered especially for this investigation, and for the small and medium schools represent-

¹ One of these directed by Dr. M. G. Neale, formerly in the Department of Educational Administration and Supervision of the University of Minnesota, and now President of the University of Idaho, and three directed by Professor Fred Engelhardt of the University of Minnesota.

ed by data from surveys and from Professor Miller's files, scores were at hand for all students enrolled in Grades IX and XII. Schools of the middle and large groups in which the tests were given especially for the purposes of this investigation are represented only by what was intended as an unselected sample of students in these grades. The method of sampling was to administer the mental tests to students in heterogeneous class sections in English, American history, and civics, it being assumed that students in randomly selected class sections in these required, and therefore non-selective, courses would be representative of the entire enrolment in a given grade. The manner of indicating the class sections to be tested, described at greater length in the next chapter, in which results on achievement tests are reported, was to take the first class section in a given subject in the morning for that teacher of this subject (if there was more than one teacher of the subject), the beginning letter of whose name was first in alphabetical order. In order to secure data representative of the large-urban situation, tests were given to such class groups in four high schools in Minneapolis, three in St. Paul, and two in Duluth, these being selected from the different sections of each city.

There can be no question of the representativeness of the mental test data for the groups of private schools, since the tests were administered to such large proportions of all schools and of all students. These included approximately two-thirds of all accredited Catholic schools in the state, all but two of the Scandinavian schools, and all but two of the independent schools. In all, 3,140 mental tests were given in these groups. There can not be the same degree of certainty concerning the complete representativeness of the data for public high schools. They pertain to 1,001 students in Grade IX and 784 students in Grade XII. These numbers may in themselves seem large, but they are small compared with the total of 30,000 to 40,000

students enrolled in these two grades in all the public high schools of the state. Whatever confidence one may have in the data relating to public schools arises from (1) the fact that the small and medium schools are widely scattered over the state, and (2) the aim to test only randomly designated class groups in the medium and large schools. In schools of these groups it was not practicable, except in a few instances for those of medium size, to secure scores for all students. The data for public high schools can not be far from representative.

The first comparison, afforded by Figure 11, is of median intelligence quotients and interquartile ranges of intelligence quotients for the first and last years of the four-year high-school period. The first general impression from the data for Grade IX is the approximate equivalence of the measures for all groups, excepting the independent schools, for which these measures are much higher. That is, the medians for all groups but this one are not far apart and the ranges of the middle 50 per cent are roughly coincident. A careful examination of detailed measures shows the measures for public high schools, except for the large public high schools, to be slightly lower than for the Catholic and Scandinavian schools. This may or may not mean a slight inferiority of the small and medium public groups, depending on whether or not the relatively small sample for public schools is representative of all public schools in the state. The measures for medium schools are most open to question, because, from what is known of differences dependent on size of communities, these measures should lie somewhere between those for small and those for large schools. The "combined public" referred to in the figure includes all the small, medium, and large schools as previously described. The much higher median and range for the independent schools was to be anticipated from the differences between this group and the others previously reported.

The lower half of the figure shows a movement upward of

the medians and ranges for all groups, which means that there is continuance of selection within the high-school period repre-

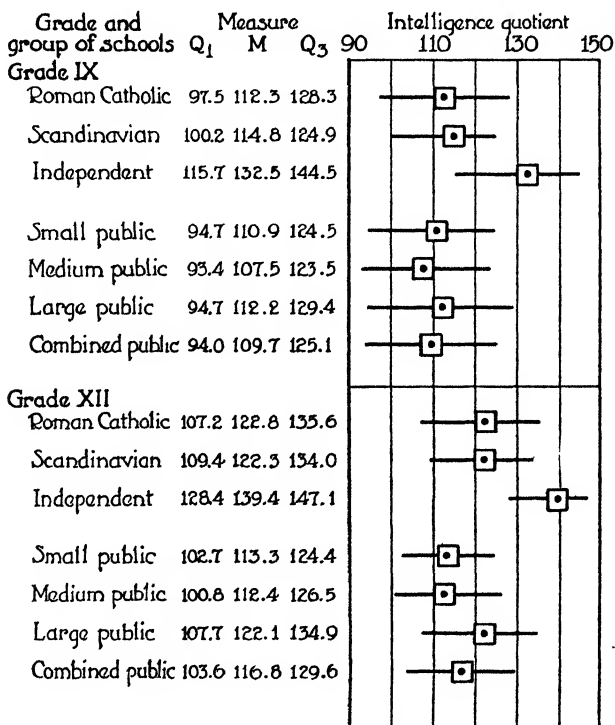


FIG. 11.—Median intelligence quotients and ranges of middle 50 per cent of intelligence quotients in Grades IX and XII in each group of private schools and in public high schools. (The squares locate the medians and the lengths of lines represent the ranges of the middle 50 per cent.)

sented in all these types of schools, private and public. There is, however, with one exception (the large public school), a greater differential between the private and public groups than is shown for the ninth grade, from which we may conclude that selection does not continue at as rapid a rate in public as in

private schools. This is another way of saying that, as far as retention is concerned, the public schools within this four-year period are going farther toward intellectual democratization and retention than are the private institutions. If this is true, the process of selection may be understood to be going on during the first high-school year, that is, from the opening of school until the later months of the school year when these tests were given. We know from other studies that elimination is especially heavy in this year. This suggests the inference that, if these intelligence tests had been given at the opening rather than near the close of the year, the measures for Grade IX in the public high schools would have been fully on a par with, or even higher than, those in Catholic and Scandinavian schools.

It may be pointed out that for the twelfth grade, as for the ninth, the measures for medium schools are not internally consistent with what is to be expected in a comparison of small, medium, and large schools.

The second comparison is for all students irrespective of classification. Public schools are not represented in it because intelligence-test data for students in tenth and eleventh grades were secured for only a few of the public schools. For this comparison, also, the Catholic schools were grouped as coeducational, boys', and girls' schools. In addition to the medians and ranges of the middle 50 per cent for all students in the schools grouped in this way, Figure 12 presents the same measures for "low" and "high" schools within each group, that is, low and high when measured in this way. Low usually means lowest and high means highest. The only exceptions are where schools with very small enrolments—that is, much fewer than fifty students—were at the bottom or top. In these few cases the next lowest or next highest was used to represent the group.

The squares and lines in Figure 12 depicting respectively the

medians and ranges of the middle 50 per cent for all schools in the three Catholic groups show these measures to be somewhat

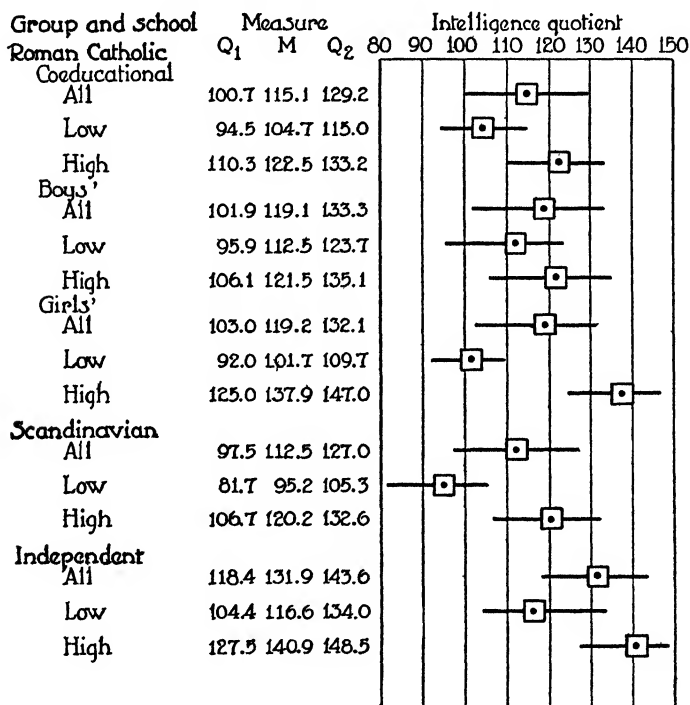


FIG. 12.—Median intelligence quotients and ranges of middle 50 per cent of intelligence quotients for each group of private schools and for the low and high schools in each group. (The squares locate the medians and the lengths of lines represent the ranges of the middle 50 per cent.)

higher for the segregated than for the coeducational schools. The explanation is to be found in the fact that the segregated schools are in larger communities than are the coeducational schools. The only one of these three Catholic groups in which there is a remarkably wide difference between the measures for low and high schools is the group of girls' schools. The medians

for these two groups are exceedingly far apart and the ranges of the middle 50 per cent of intelligence quotients do not touch each other by 15.3 points. The school designated as "high" is the same one referred to in discussing the economic and social status of fathers, in which almost two-thirds of the fathers were found to be in the first three of Counts's classes of occupations. The distribution intellectually for this school is practically as high as for any in this entire representation of private schools.

The measures for Scandinavian schools are a little lower but not far from those for Catholic coeducational schools. The difference between low and high schools is wide. The relatively low measures in this group are explained by a fact already reported: the large proportions of students in this group of schools who come from homes in which English is not the language ordinarily spoken. We are on safe ground in questioning whether these tests of intelligence are fair to students who come from such homes.

These measures for the independent schools bear out the expectation of superiority supplied by the measures in Figure 11. The school here depicted as low is, in fact, a good deal lower than all other schools in the independent group, its median and range being very similar to those for all students in the Catholic and Scandinavian schools.

Additional evidence of variation in ability from school to school within the groups is provided in Table IX, which presents the distributions of the median intelligence quotients for each of the groups of Figure 12. This table emphasizes the tendency to contrast between Catholic and Scandinavian schools on the one hand and independent schools on the other. For only three of the thirty schools in the Catholic and Scandinavian groups do the medians rise above 125, while for only a single one of the independent group does the median

drop below this point. Although one may properly conclude from this table and from the two preceding figures that abilities of students in the groups of schools overlap, there is evidence also of some distinction of the level of intelligence between the first two groups (the Catholic and Scandinavian) and the third (the independent).

TABLE IX
DISTRIBUTION OF MEDIAN INTELLIGENCE QUOTIENTS FOR THE
DIFFERENT GROUPS OF PRIVATE SECONDARY SCHOOLS

INTELLIGENCE QUOTIENT	ROMAN CATHOLIC			SCANDINAVIAN	INDEPENDENT
	Coeducational	Boys'	Girls'		
140 0-144 9 .		.	.		1
135 0-139 9	.		1	.	1
130 0-134 9 .	.				3
125 0-129 9	.		2		.
120 0-124 9 .	2	2	1	3	
115 0-119 9		.	3	1	1
110 0-114 9	6	3		2	.
105 0-109 9	..		1	.	
100 0-104 9	1		1	.	
95 0- 99 9	.			1	.
Number of schools	9	5	9	7	6

The conclusion of a tendency to superior ability of students in independent schools in Minnesota is supported by the findings of a study comparing Seniors in the public high schools of Pennsylvania with those in certain independent schools of the East, reported by the Educational Records Bureau.¹ In this comparison the median score and the middle 50 per cent of scores for Seniors in the independent schools is much higher than for Seniors in Pennsylvania. The full range of scores for Pennsylvania Seniors carries the distribution to fully as high

¹ Eleanor Perry Wood, *The Educational Achievement and Intelligence of Independent School Children*, p. 57. Educational Records Bulletin No. 2, 1929.

a point, showing that according to these tests there are students with just as good ability in public as in private schools. This comparability of students at top levels of the full range of ability in public schools with those in private schools could easily be demonstrated from the findings of the present investigation, if space would permit. More than this, it would be easy to establish the same comparability of high scores in Catholic and Scandinavian schools with those in independent schools.

To those accustomed to deal with intelligence quotients computed from scores on tests of mental ability other than the Miller, the intelligence quotients may seem somewhat unusual—for quotients well above a hundred they are much larger than those, for example, from scores on the Terman Group Test of Mental Ability, a test often used with high-school students. Kefauver has made it possible to equate intelligence quotients from various mental tests conveniently by preparing a table of equivalent values¹ by means of which Terman equivalents for measures here reported will be illustrated. In Figure 11 the median quotient in the ninth grade in Roman Catholic schools is reported to be 112.3. In Terman equivalence this is somewhere between 106 and 107. The median quotient for independent schools is reported as 132.5, which in Terman equivalence is not far from 118. The upper limit of the middle 50 per cent for this group of schools is reported as 144.5, which is between 129 and 130 in Terman equivalence.

EDUCATIONAL OUTLOOK OF STUDENTS IN PRIVATE AND PUBLIC SECONDARY SCHOOLS

The concluding manner of describing the students themselves is with respect to their educational outlook. To secure

¹ Grayson N. Kefauver, "Need of Equating Intelligence Quotients Obtained from Group Tests," *Journal of Educational Research*, XIX (February, 1929), 92-101.

evidence for this purpose those enrolled in the private schools were asked to answer the question, "What do you intend to do after graduation from high school?" In order to assist to a correct interpretation of the answers to this question, three others were asked, "Do you intend to go to college?" "What college?" and "What are your plans for an occupation?" Because the first question had been put in identical form by Counts¹ to students in public high schools in certain cities in other states than Minnesota, it is possible to include the results of computations from certain of his data in the comparisons next to be reported. For this comparison data were used only for St. Louis and Seattle, in the belief that high-school and college conditions there would be more like those of public high schools of Minnesota, particularly in Minneapolis and St. Paul, than would those of Bridgeport (Connecticut) and Mt. Vernon (New York), the two other cities for which Counts gathered data. Although not all the private schools in this study were in the Twin Cities, a majority of them were. Moreover, certain others drew their students in considerable part from these cities. Special attention will be directed to conclusions that are likely to be affected by the situation in outlying private schools. All told, the comparisons with the data from public high schools of St. Louis and Seattle merit consideration both because they are justified and because the findings are significant.

Because the distributions of plans of boys and girls are not alike, the two sexes are considered separately. The percentages of boys with certain types of plans following graduation from the secondary school are shown in Figure 13. The general impression afforded by a comparison of the four groups of boys is the approach to similarity of the proportions for boys in Catholic, Scandinavian, and public secondary schools. The plans of boys in independent schools differ sharply from those

¹ *Op. cit.*, chap. ix.

for boys in these three groups. *Practically all boys in the independent schools plan to continue in college or university after graduation from high school*, almost negligible proportions reporting other plans. The proportions for the three other groups range roughly from a half to three-fifths of all boys.

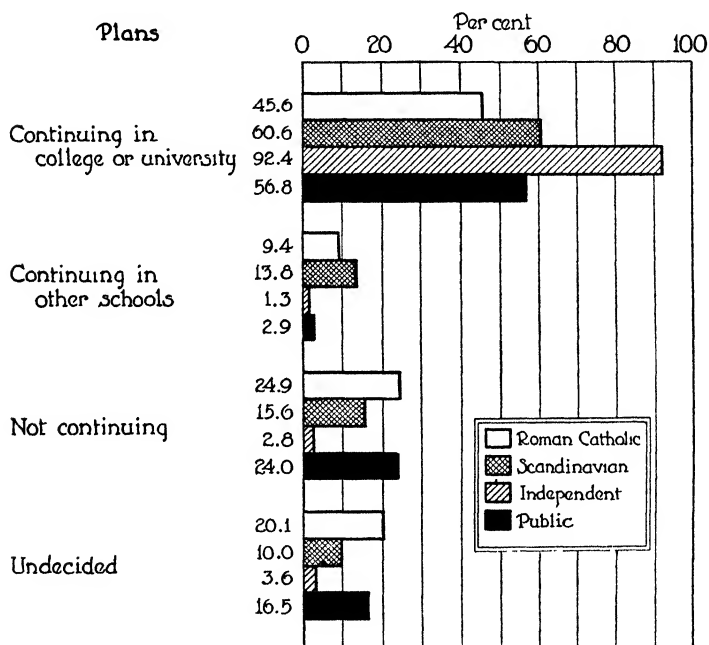


FIG. 13.—Percentage of boys in Catholic, Scandinavian, independent, and public secondary schools indicating certain plans.

This general impression of similarity for the three groups referred to breaks down appreciably when considering those continuing in other schools where the proportions are larger for Catholic and Scandinavian than for public schools. The explanation is to be found in the type of school to which they expect to transfer. This is to “business” or “commercial”

schools, and the difference is accounted for by the fact that the public high schools represented provide commercial departments more frequently, and usually have stronger offerings in these departments, of which the boys have more often availed themselves. The proportion continuing in other schools includes a very small number planning to enter normal schools or teachers' colleges. Those classified as "not continuing" usually report specific occupations which they plan to enter upon graduation.

As may be seen in Figure 14, the distributions of plans of girls in Catholic, Scandinavian, and public schools, although they bear some resemblance to each other, are not as much alike as are the distributions for boys in the same groups. There is, however, the same sharp contrast between these and the distribution for girls in independent schools, five-sixths of whom plan to enter college or university, with relatively small proportions having other plans in mind. The proportions of the three groups first named who plan to enter college or university are smaller than for boys, but these are somewhat compensated for by the proportions planning to enter normal schools or teachers' colleges (which are large enough to be set apart in this figure for separate consideration) and the proportions planning to continue in other schools. Judging from this evidence, teachers are not often recruited from those who attend independent private schools. The other schools mentioned are predominantly business schools and nurses' training schools. The relative infrequency and less developed status of commercial training in the Catholic and Scandinavian schools will again explain the differences in the proportions for these groups and for the public high schools who plan to continue and who plan not to continue. Besides those girls who report specific occupations among those classified as not continuing are some who report that they will "stay at home."

Plans of students obtained in this way can not be considered as an accurate index of what the respondents will do after

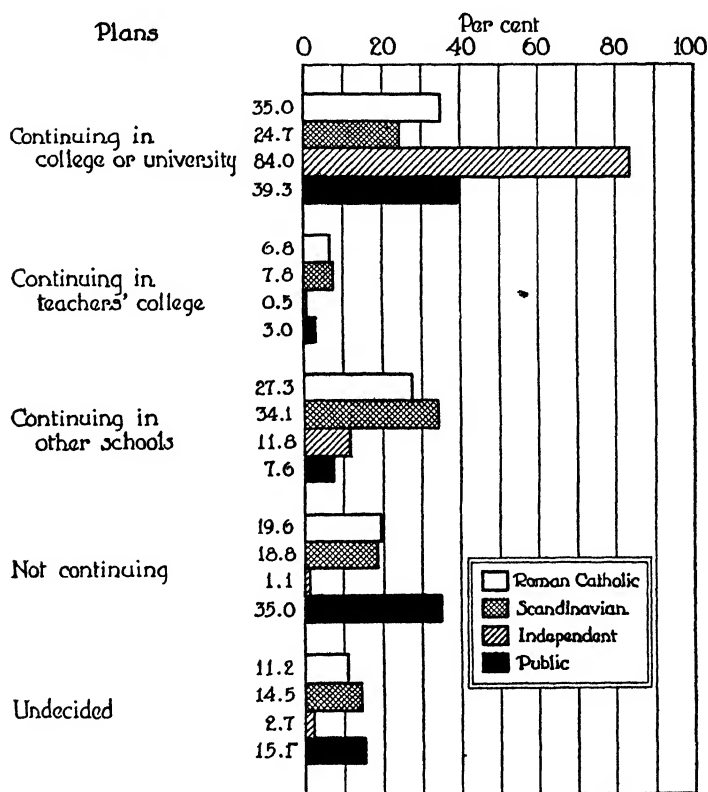


FIG. 14.—Percentages of girls in Catholic, Scandinavian, independent, and public secondary schools indicating certain plans.

graduation. The actual destinations of many individual students following graduation are almost certain to differ from those set down upon request from a few weeks (for Seniors) to three years or more (for Freshmen) prior to the date of

graduation. They are, nevertheless, reliable as a basis of comparison of the groups being studied. In terms of these plans of their students the special function of these independent schools may be thought of as overwhelmingly college-preparatory. The functions of the three remaining groups are much less so, although this must be regarded as one of their important functions. While considering the basis for this inference, it will be well to call attention to the influence of the Catholic coeducational schools on the proportion reported for the Catholic group in Figures 13 and 14 as looking forward to continuance in college or university. These coeducational schools are exclusively in smaller communities and therefore reflect the smaller proportions planning to attend college which are characteristic of the rural communities from which colleges are less accessible. The figures do not disclose the fact, but the evidence upon which they are based underlies the assertion that the proportions with college intentions from these coeducational schools as a group (all of which are in smaller communities) are smaller than the proportions shown in the figures, and the proportions for the segregated schools (which are all urban, most of them in the Twin Cities) are as large or larger.

The further comment may be ventured that if the plans of students are deemed worthy of consideration in mapping out the curricula of the Catholic schools, it would be desirable to enlarge and strengthen the offering in the commercial field.

Without presenting the detailed evidence, it is desirable to generalize on the responses to the request to these students to list the colleges they planned to attend. The largest single number in the Catholic groups gave the names of colleges of the same denomination. Similarly students in the Scandinavian schools indicated, more frequently than other institutions, colleges of the prevailing Scandinavian denominations. This is the same thing as saying that with these two groups denomination

determines the college much as it does the secondary school attended. This is even more characteristic of the secondary schools outside than of those inside the Twin Cities. It is proportionately seldom that students in such of these two groups of schools as are outside look forward to attending the University of Minnesota. The institutions operating under public auspices most frequently named in such schools are the teachers' colleges near at hand, and, as is already apparent, they are named almost solely by girls.

Students in the independent schools more frequently than otherwise name the well-known colleges and universities of the eastern states, the conclusion being warranted that, in terms of the plans of these students, most of these schools are not only primarily college-preparatory schools, but primarily preparatory to eastern colleges. In all the three groups of schools, however, more especially those enrolling students of urban residence, are considerable proportions planning attendance at the University of Minnesota. The proportion of these is larger for the independent schools than for the two other private groups.

Data are not at hand concerning the institutions which students in the public high schools of Minnesota plan to attend, but it may be confidently assumed that the University of Minnesota would be named by the largest single proportion. After these would come the state teachers' colleges and the other colleges in the state.

THE SIGNIFICANCE OF THE EVIDENCE

The first of the dozen types of evidence presented in this chapter established—what was, perhaps, unnecessary to establish—the preference of the patrons of private secondary schools for these schools. This preference was established in the typically greater distance of the private school than the

public high school from the homes of patrons. In most cases where students attended a private school remote from the home, there was a public high school within commutable distance.

Attention is thus naturally directed to the grounds of preference, ascertained in part by direct inquiry after reasons for attendance, but mostly by a study of the character of the patronage, this being disclosed by a study of both pupils and parents. On account of the nature of the evidence, it may best be summarized by dealing with Catholic and Scandinavian schools in immediate comparison with each other and with independent schools separately. The background of the summary is supplied by the public high school.

The reasons offered by students for attending Catholic or Scandinavian schools are usually cast in religious or denominational terms. The conviction that denomination is a dominant influence in the maintenance of these two groups of schools is supported by the overwhelming proportions of students coming from homes of the same denominations as those under whose auspices the schools are conducted. In the case of the students in Catholic schools, this influence emerges again in the proportion—three-fourths of all—who report having completed their elementary schooling in private schools. This is not true of the Scandinavian group, almost all of whom come from public graded and rural schools. (We may interpolate here that the proportion which students in Scandinavian secondary schools are of those in prevailing Scandinavian denominations in the state are almost negligible. The analogous statement for Catholics would not be true.) The proportion of fathers of foreign birth among students in Catholic schools is practically identical with that for all males in the state in 1920, while the fathers of students in Scandinavian schools are predominantly foreign-born. Similarly, the proportion of

students in Catholic schools coming from homes in which a foreign language is ordinarily spoken, either alone or with English, is much smaller than for Scandinavian schools, for which it is approximately as large as the proportion of foreign-born fathers. Economic and social status as shown in occupational distributions of fathers does not differ widely between the two groups. The same may be said for most other respects in which the students were compared, especially the number of children in the family, the intelligence, and the educational outlook as determined by plans following high-school graduation. With respect to age only was there a marked difference, a larger proportion of students in Scandinavian schools being over age. Brief further comments should be made with respect to intelligence and to educational outlook in comparison with students in public high schools: (1) any difference in intelligence in favor of the Catholic and Scandinavian schools may be accounted for by a higher degree of selection within the four-year period; (2) larger proportions in Catholic and Scandinavian schools plan to continue in other schools, mainly non-collegiate, because of the dearth of opportunities for occupational training in the school being attended.

The facts for independent schools differ strikingly from those both for Catholic and Scandinavian schools and for public high schools. In contrast with schools of the two groups where denominational lines are highly determinative of attendance, religion or denomination is seldom offered as a reason; and, by the same token a highly predominant denomination never appears in the responses to the request for the church membership or preference of parents. On the other hand, independent private schools are patronized, if we may judge from the statements of students, because they are college-preparatory, presumably "better," and "private" perhaps in the sense of more exclusive. Elementary schooling is obtained in about equal

frequency in private and in public schools. Parents of students in independent schools are almost exclusively of native birth, and in few indeed of the homes is a language other than English ordinarily spoken. In economic and social status as indicated by fathers' occupations these students come largely from the three highest classifications. Families are typically much smaller. In intelligence as measured by mental tests they are far superior to other groups, although in this and in other respects there is much variation from school to school within groups and much overlapping of one group on another. It is not often that students in independent schools do not look forward to continuance of education in college or university, the proportion with plans for continuance being much larger than for students in all other groups of schools.

As far as the evidence here reported is concerned, only with respect to the proportions of students with one or both parents deceased do all the groups of private schools possess an important influence for patronage in common which is not also possessed by the public schools, and this is possessed only by those schools with boarding facilities. Even here the out-and-out protagonist of public secondary schools would contend that those in charge of public education have been remiss in not providing facilities for children from broken homes.

CHAPTER III

THE ACHIEVEMENT OF STUDENTS

THE PLAN OF COMPARISON

Having studied the student bodies of private and public secondary schools and made some attempt through this description to explain the patronage of private schools, we turn to a comparison of accomplishments. The comparison will be made at two levels; the first *within the schools themselves* and the second *in the higher institution*. The evidence concerning achievement within the schools is presented in the current chapter and that concerning success in the higher institution in the chapter next following.

The measures of accomplishment within the schools were obtained by giving certain objective tests—"standard" tests that have been widely used to study the performance of students in secondary-school grades. The fields in which the tests were given were selected as representative of the chief groups of academic subjects. Certain subject-groups, especially the non-academic, such as the practical arts, music, art, and physical training—not to mention religion, which is taught in many of the private schools—are totally unrepresented in the test results. Applicable tests in these fields have not yet been developed. Then, too, some of the specific subjects in certain groups were not tested because the testing program would, with these included, have exceeded practicable bounds. Beyond all this, the usual admission should be made that, in some subjects specifically represented in the test results, certain desirable outcomes are completely ignored, the explanation being found in the obstacles, to date insurmountable, to measuring

important but elusive values. Notwithstanding all these limitations, the comparisons made are in important subjects and in significant aspects of these subjects, so that any notable tendency to differences between the groups of schools should contribute to an understanding of the situation presented by the existence of these several groups of schools.

The following subjects and phases of subjects are represented in the results to be reported: "minimum essentials" in English (in the language aspects); ability in silent reading; vocabulary and translation in Latin; vocabulary and translation in French; algebra (1) equations and formulas and (2) problems; plane geometry; physics (information and thought); chemistry; American history; and civics.

Including the mental tests, the results from which were reported in the foregoing chapter, a total of upward of 20,000 tests were administered expressly for this investigation. Of these, approximately 4,000 were intelligence tests, to which it was possible to add data from more than a thousand tests already available from surveys and elsewhere as described in chapter ii. If all these measures in the subjects of study had been used as ascertained, this would mean fully 16,000 scores on tests in subject-matter, but this number was further reduced by (1) combining into single scores the separate measures in vocabulary and translation in the foreign languages, (2) eliminating entirely classes and schools found to have had previous experience with a particular test, (3) omission of data in a few fields in which the numbers of classes and students were too small to warrant comparison, and (4) in one case abandoning a less satisfactory test after the investigation had been begun because a better one had made its appearance. The total number of scores utilized in the comparisons undertaken in the chapter is in excess of 14,000,¹ of which somewhat more than

¹ The numbers of schools and students represented in each subject are reported in Table XXXIV in Appendix B.

half are from private schools and the remainder from public schools.

In such a study the numbers of test scores can not be distributed equally to all the different subjects. The proportions of students pursuing some subjects are much larger than those pursuing others, and the proportions vary widely from school to school. Other vicissitudes in carrying out the testing program, such as the amount of time available and the time required to give a particular test, operated to enlarge or diminish the total number of scores at hand in a given subject. On this account the numbers in some subjects are so attenuated as to recommend omission of this or that group of schools. On the whole, however, there is sufficient evidence for such conclusions as are ventured.

The tests given expressly for this investigation were all administered during the late weeks of spring in 1926, 1927, and 1928, most of them in the last two years. Almost all were administered from the last week in April into the early days of June. In only a few instances were they given outside these limits, and never at a time other than the spring months. The aim throughout was to secure measures of performance near the end of the school year. The dates for the schools in the different groups were distributed over the full period so as to avoid unfairness to any group through administering tests to schools in it prevailing early in the period or advantage to any group through administering them prevailing late in the period.

In private schools the usual practice was to administer the subject-matter tests to all students pursuing a given subject. There were two types of exception: (1) tests in English and reading were given to students in Grades IX and XII only, and (2) in two large Catholic boys' schools tests were given only to a generous and representative sample in these two fields. In small public high schools, also, all students were tested. In

medium and large schools the practice was followed of testing in a given subject the first class-section in the school day of the teacher of that subject. Where there was more than one teacher of the subject, the first class of that one was taken whose last name was first in alphabetical order. The practice of grouping pupils homogeneously had not been followed in schools sampled in this way. Because only a single class section in a given subject was tested in each school, it can not be assumed that the results would be representative of the individual school. The method, however, is designed to secure a representative sample of performance for the group of schools. Only a few medium schools are represented; they have therefore been included with the "small" public high schools, that is, with those with enrolment of less than 200. The data for "large" schools came from high schools in Minneapolis, St. Paul, and Duluth. The grouping of public high schools differs in this respect from that followed in chapter ii in comparing in intelligence the students in private and public schools.

MINIMUM ESSENTIALS IN ENGLISH

The test given in English in this investigation is one that has had wide usage, the Tressler English Minimum Essentials Test, Form B. It is made up of seven subtests, as follows: Test I, Grammatical Correctness; Test II, Vocabulary; Test III, Punctuation and Capitalization; Test IV, The Sentence and Its Parts; Test V, Sentence Sense; Test VI, Inflection and Accent; Test VII, Spelling. These tests are all short, the total number of items in all tests being 85. This total number of items is also the maximum score. Data reported here relate to scores on the entire test and not on the separate subtests.

Median scores and the ranges of the middle 50 per cent of scores for the five different groups of secondary schools—three private and two public—represented in the comparison

are reproduced in Figure 15. The upper half of the figure presents these measures for Grade IX and the lower half for Grade XII, making possible a comparison of progress in English through three high-school years. The measures for Grade IX

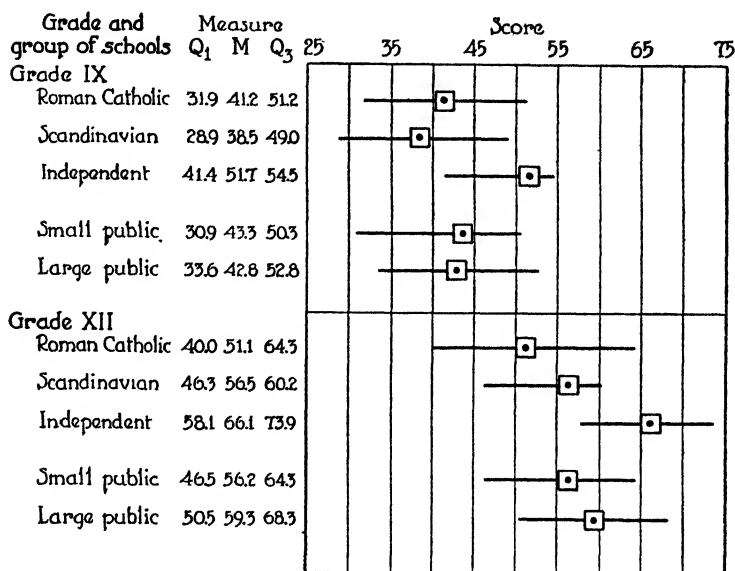


FIG. 15.—Median scores and ranges of middle 50 per cent of scores on the Tressler English Minimum Essentials Test, Form B, of students in Grades IX and XII in private and public secondary schools. (Throughout the figures in this chapter the squares locate the medians and the lengths of lines represent the ranges of the middle 50 per cent.)

show the performance in Scandinavian schools to be somewhat lower than that in Catholic schools. Among the factors that must account for this are the larger proportion in Scandinavian schools coming from homes in which a foreign language is ordinarily spoken and the larger proportion coming from rural schools and farm homes. Evidence on these factors has been presented in chapter ii. The higher measures for the independ-

ent group are to be expected from the difference in their favor in intelligence quotients also disclosed in the same chapter. The measures for public high schools are at least on a par with those in Catholic high schools—they are even slightly higher. It may be recalled that corresponding measures on intelligence reported in chapter ii found students in public schools to be somewhat lower. It was there made clear that the same students are represented in these measures. The conclusion is therefore warranted that the students in public schools manifest this slight superiority in the scores on the test in English notwithstanding some tendency to less ability as measured by the intelligence quotient. The lower measures for large public than for small public high schools may mean that the sample for large schools does not represent them fairly: they do not show the usual superiority of large public schools over small public schools.

The large shift upward of the measures for Grade XII shown in the lower part of Figure 15 is not surprising and is common to all groups. Because of their relatively low position for Grade IX, it is surprising to note that the measures for Grade XII in Scandinavian schools are relatively high. This remarkable shift may be brought about by a heavy elimination during the intervening three years of students with deficiencies in this subject, by a compensation through heightened efficiency, or—what is more than likely—by a combination of such influences. The independent schools somewhat more than maintain the superiority demonstrated in the ninth grade. Performance in Grade XII of the two groups of public high schools compares favorably with that in the first two groups of private schools. This is especially remarkable in view of the relatively low intelligence quotients of students in twelfth grades of public high schools as compared with those of students in all groups of private schools as depicted in Figure 11 of chapter ii. Even

when the measures of intelligence are computed for only those schools and students represented in the measures on the English tests, the conclusion of better performance with less ability of students is not entirely set aside. The median intelligence quotient in Grade IX of only such Catholic schools as are represented in the data from the English tests was found to be 113.6, which is practically identical with the median of 112.3 reported in Figure 11. The corresponding measure for Grade XII was 116.7, which is lower by about 6 points than the median in Figure 11, but this is still higher than the medians for small and medium public schools as reported in the same table.

The description and comparison are hardly complete without reference to variation from school to school within the groups of private and public schools. The variation is suggested in Tables X and XI, which present the distribution of median scores in the first and last high-school grades for the several groups of schools. These tables demonstrate unequivocally the wide variation in all five groups of schools, a variation that actually widens for almost all groups between the ninth and twelfth grades. Owing to the method of sampling, the medians for the large public schools should not be accepted as representative of the individual schools as much as of the variation among students within large schools. Although it has little meaning for the comparison which is our chief concern, it should be a matter of interest to refer to the measures reported by the author of the test as "norms" for Grades IX and XII. The norms for Grades VII to XII are described as being "based on more than nine thousand scores." For Grade IX the "norm," or median, was 46.1, and for Grade XII it was 65.6. Only the group of independent schools attained these norms. The classes and schools on which these norms were established performed more satisfactorily than did most of those in the comparison just portrayed.

ABILITY IN READING

The Haggerty Reading Examination, Sigma 3, was given to practically all students in Grades IX and XII of private schools to whom intelligence tests were administered especially for this investigation. It was administered also to practically all students in the same grades of the small public high schools repre-

TABLE X
DISTRIBUTION OF MEDIANS ON THE TRESSLER MINIMUM ESSENTIALS
ENGLISH TEST, FORM B, OF STUDENTS IN GRADE IX OF
PRIVATE AND PUBLIC SECONDARY SCHOOLS

Scores	Roman Catholic	Scandinavian	Independent	Small Public	Large Public
60-64			1	.	
55-59			1	..	
50-54	2		3	.	1
45-49	1		1	4	1
40-44	4	2	1	2	2
35-39	2	1		1	
30-34	2	3		3	1
Number of schools	11	6	7	10	5

TABLE XI
DISTRIBUTION OF MEDIANS ON THE TRESSLER MINIMUM ESSENTIALS
ENGLISH TEST, FORM B, OF STUDENTS IN GRADE XII OF
PRIVATE AND PUBLIC SECONDARY SCHOOLS

Scores	Roman Catholic	Scandinavian	Independent	Small Public	Large Public
70-74			3	1	
65-69	2		1		1
60-64	1	1	3	1	1
55-59	1	2		5	
50-54	1	2		3	3
45-49	1			1	1
40-44	3		1		
35-39		1			
Number of schools	9	6	8	11	6

sented, excepting those for whom intelligence quotients were already available from surveys or elsewhere and excepting the very few medium schools included. The representation for all groups of private schools is generous. The samples for small and large public high schools are large enough to assure significance, especially in view of the manner of sampling followed. The aim throughout was to secure an unselected representation for public schools and as near a complete representation as feasible for the groups of private schools. The numbers of schools and students tested (see Table XXXIV in Appendix) gives assurance on the last of these two scores. This reading test has the advantage of combining in a single booklet a test of vocabulary, a test of comprehension of short sentence units, and a test of comprehension of paragraphs. Comparison on such a test should be significant for a number of reasons, with at least two of which we are directly concerned. The first is the significant relationship between ability in silent reading and in English on which report has just been made. It is worth noting in this connection that both the Tressler and Haggerty examinations contain vocabulary tests. The second reason is the logical dependence of success in many high-school subjects on ability in silent reading.

The median scores and the ranges of the middle 50 per cent of scores are reproduced in Figure 16. A glance at these measures for Grade IX in the first two groups of schools shows the Scandinavian to fall considerably below the Catholic. This can be explained by the much larger proportion of students in the Scandinavian group coming from homes in which a foreign language is ordinarily spoken. The same cause was used to explain a similar, but smaller, difference between the two groups in the scores on the English Minimum Essentials Test. The measures for the same grade in small public high schools are not quite on a parallel with those of Catholic schools; those in large public high schools are notably higher.

By the end of Grade XII the Scandinavian schools have almost caught up with the Catholic schools. The small public high schools are now fully on a par with them, which speaks well for them in the light of the differential in intelligence quo-

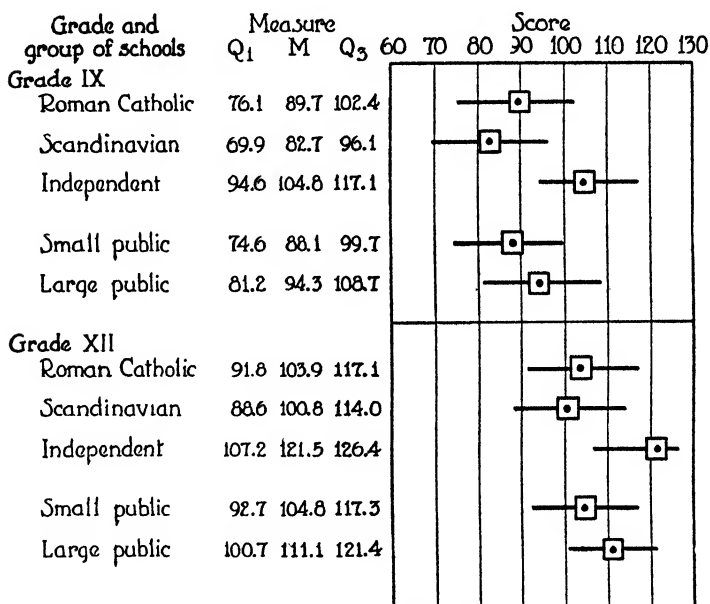


FIG. 16.—Median scores and ranges of middle 50 per cent of scores on the Haggerty Reading Examination, Sigma 3, of students in Grades IX and XII in private and public secondary schools.

tients in favor of the Catholic group disclosed in the materials of chapter ii. The measures for this grade in large public high schools show these institutions to have fully maintained the superiority demonstrated near the end of the ninth grade.

Corresponding measures for both ninth and twelfth grades in independent schools manifest the anticipated superiority in this group.

LATIN

For Latin the Henmon Latin Test was used, a test of vocabulary and sentence translation. It was administered to all classes and students in the subject in the schools in which time was found to give it, but the evidence was so scattered for the advanced classes that data are reported for first-year and second-year classes, that is, classes enrolled in first-year and second-year Latin. The extent of representation may be regarded as satisfactory except for first-year Latin in small public schools and second-year Latin in large public schools, where the numbers of schools and pupils drop to proportions not warranting great assurance on the reliability of the measures.

The data for first-year Latin classes, irrespective of the grade in which students were enrolled, are presented in Figure 17. The measures show Scandinavian and independent schools far exceeding the Catholic schools. The Scandinavian exceed even the independent schools, probably on account of a high degree of selection among those who study the subject in Scandinavian schools. A much larger proportion of students in independent schools than in Scandinavian schools study Latin. Moreover, students of foreign parentage, of whom we found in chapter ii such a large proportion in Scandinavian schools, do not suffer in Latin the handicap they must surely suffer in a field like English. In several independent schools Latin is taken by eighth-grade pupils. The only comfort those concerned with the success of the public school can take from the figures for the small public high school is the relatively small number of cases (see Table XXXIV in Appendix): perhaps the numbers are so small that the measures are not representative. In large public high schools the performance in this year of Latin is fully as good as in Catholic schools.

80 PRIVATE AND PUBLIC SECONDARY EDUCATION

The data presented in Figure 18 for the second year of Latin—still disregarding the classification of students—still show the

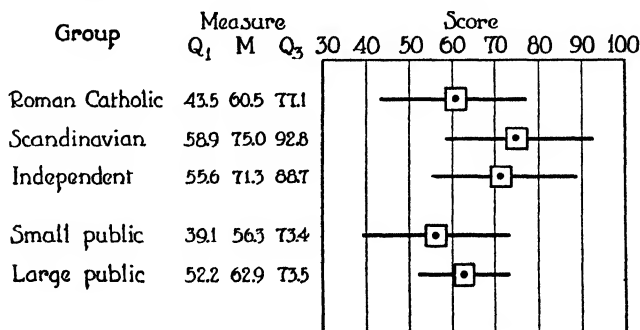


FIG. 17.—Median scores and ranges of middle 50 per cent of scores on the Henmon Latin Test of students in first-year Latin classes in private and public secondary schools.

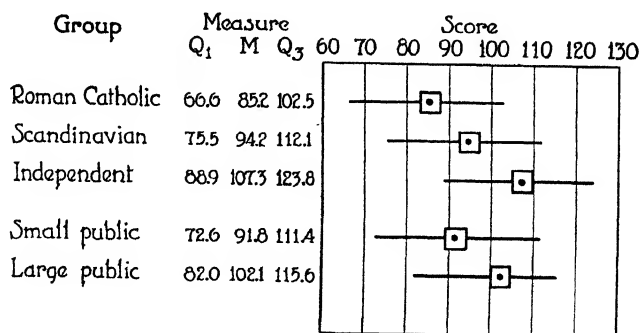


FIG. 18.—Median scores and ranges of middle 50 per cent of scores on the Henmon Latin Test of second-year classes in Latin in private and public secondary schools.

performance of students in Scandinavian schools better than that in Catholic schools. However, they are not, as they were in first-year Latin, superior to students in independent schools. Performance in small public high schools is almost equal to that in Scandinavian schools, and that in large public high

schools exceeds it, being not far from equal to that in independent schools. The relatively high performance of students in public high schools must be in some part at least ascribed to the selection of those who take it. In Catholic schools, somewhat as in independent schools, the proportions taking second-year Latin are larger than in public schools. One should bear in mind that many students in independent schools, having begun their Latin in the eighth grade, study second-year Latin in the ninth grade.

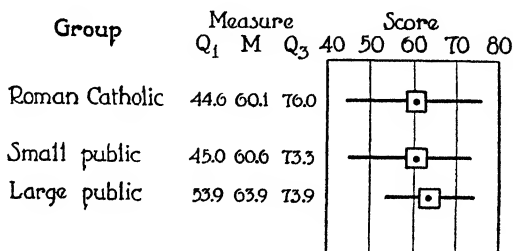


FIG. 19.—Median scores and ranges of middle 50 per cent of scores on the Henmon Latin Test of students in the first-year Latin classes in Roman Catholic and public secondary schools, ninth-grade students only.

When scores for ninth-grade students only who were taking first-year Latin are considered, the measures resulting are those shown in Figure 19. The numbers of such students in Scandinavian and independent schools were so small as to make it advisable to exclude these groups from the comparison. The measures for Catholic and small public schools are practically on a par, while those for large public schools are higher than for these two groups. Analogous data for tenth-grade students pursuing second-year Latin are shown in Figure 20. For only three groups of schools were the numbers of students large enough to justify the comparison, namely, Catholic, independent, and small public schools. The independent schools manifest their typical superiority. The median and third quartile

82 PRIVATE AND PUBLIC SECONDARY EDUCATION

are higher for small public schools than for Catholic schools, but the first quartile is considerably lower, showing greater variation in the small public-school group.

FRENCH

The modern language in which performance was measured was French. The test used was the Henmon French Test, analogous in construction to the Henmon Latin Test, results of which have just been reported. It is made up of two parts,

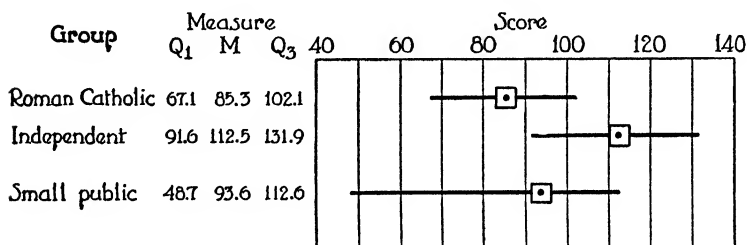


FIG. 20.—Median scores and ranges of middle 50 per cent of scores on the Henmon Latin Test of students in the second-year Latin classes in Roman Catholic, independent, and small public secondary schools, tenth-grade students only.

one a test of vocabulary, the other a test of ability in sentence translation. For purposes here the scores on these two tests were combined for individual students.

The numbers of schools and students represented are not large, but this is owing to the small proportions of schools in some of the groups offering courses in this modern language. Catholic schools much more often offer Latin, and Scandinavian schools more often teach Norwegian or Swedish. It is more frequently given in independent schools and to larger proportions of students. Small public high schools in Minnesota do not typically list French among their offerings. It may be taken for granted, therefore, that, although little can be said in be-

half of the gross numbers of schools and students, the representation of such schools as teach it is better than for some of the subjects in which larger numbers of schools and students are represented.

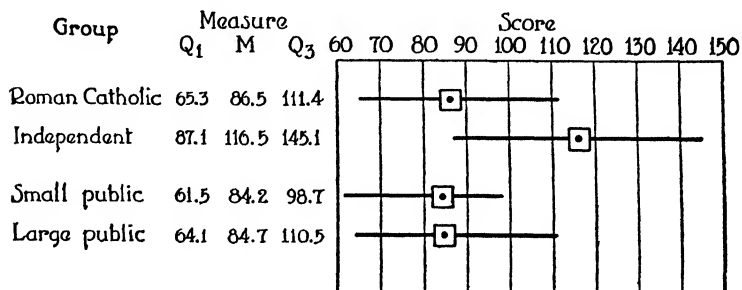


FIG. 21.—Median scores and ranges of middle 50 per cent of scores on the Henmon French Test of first-year classes in French in private and public secondary schools.

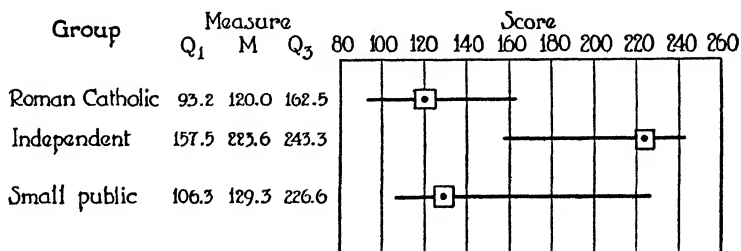


FIG. 22.—Median scores and ranges of middle 50 per cent of scores on the Henmon French Test of second-year classes in French in private and public secondary schools.

For the groups of schools represented, the comparative situation for French is not widely different from that for Latin. For the first-year classes, measures of central tendency for which are shown in Figure 21, the measures are not far apart, the small public high schools being once more slightly lower than the Catholic schools and the large public somewhat better than

the small public high schools. For classes in second-year French, measures for which are presented in Figure 22, the small public group shows an appreciable superiority over the Catholic group, especially at the upper limit of the middle 50 per cent of scores. Although these measures for large public high schools (not presented in Figure 22) are much higher, the number of classes and schools is so small as to make it advisable to disregard them in the comparison. The measures for independent schools for both first-year and second-year classes are seen to be much higher than for Catholic and public schools.

FIRST-YEAR ALGEBRA

Comparison of achievement in algebra was effected by the application of two of the Hotz First-Year Algebra Scales. The complete set of scales contains five tests, (1) addition and subtraction, (2) multiplication and division, (3) equation and formula, (4) graphs, and (5) problems. Because it was not feasible to give all these tests, two only were selected for application. These were the third (equation and formula) and the fifth (problems). These were selected in preference to the others because there is rather general agreement that they test for highly important terminal outcomes of the first year of work in algebra. The first of these tests, as its name indicates, is made up of twenty-five exercises in the solution of equations and formulas ranging in difficulty from $2x=4$, which is the first one, to $\sqrt{x^2-1}-x=1$, which is the last one. The second of these tests consists of fourteen problems, the first and simplest of which is "If one coat costs x dollars, how much will 3 coats cost?" The student is directed not to work out the answer to the problem but merely to *indicate* the answer or *state* the equation in each case.

The representation on these tests in all groups of schools (see Table XXXIV in Appendix) is generous, including twelve

Catholic schools (one less than this on the problem scale), seven Scandinavian schools (also one less on the problem scale), seven independent schools, fifteen small public schools (one more on the problem scale), and eight large public schools. The numbers of students tested are also large in all groups. In all but two of the Catholic schools, all students taking first-year algebra were tested, the exceptions being two larger schools for boys in which random class sections only were given the tests. At the time of giving the tests classes in these two schools were heterogeneously grouped. All students in first-year algebra in almost all Scandinavian and independent schools were tested. In seven small public schools (all "medium" schools as defined in chapter ii) and all large public schools the designation of the class sections to be tested was after the manner described earlier in the present chapter. In all other small public schools all students taking first-year algebra were tested.

One further item of description of the groups tested should be provided. This relates to the proportions of students pursuing courses in "general mathematics" and not courses bearing the name "algebra." There was a large proportion of these among public schools, but a negligible proportion among the private schools. The course in general mathematics may be judged from its title to be less exclusively devoted to algebra than are courses more conventionally organized. In so far as this fact works as a handicap in taking the two tests it should affect the public schools more than the private schools.

The medians and interquartile ranges in Figures 23 and 24, with only a single exception, give the several groups of schools the same relative position on both tests. The exception is an interchange of position of small public and large public high schools, the small public schools being higher than the large public schools in performance on equations and formulas and

the large public schools higher than the small public schools in performance on problems. The median scores are not remark-

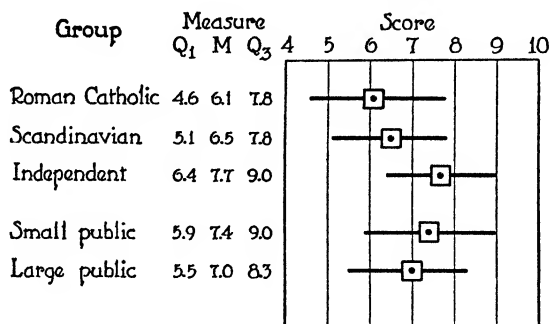


FIG. 23.—Median scores and ranges of middle fifty per cent of scores on equation and formula test of the Hotz First-Year Algebra Scales, Series A, in private and public secondary schools.

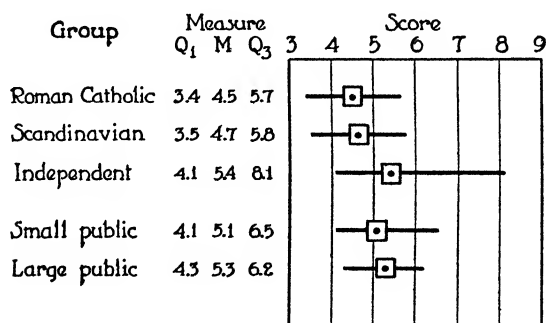


FIG. 24.—Median scores and ranges of middle 50 per cent of scores on problem test of the Hotz First-Year Algebra Scales, Form A, in private and public secondary schools.

ably far apart from group to group for either test, but the order from lowest to highest is Catholic, Scandinavian, public (combined), and independent. The independent schools do not appear to be as much superior to other groups in this subject as in some of the others in the entire comparison of the chapter.

The "tentative median standards" reported by Hotz¹ for the "nine-month group" taking these tests are equation and formula scale, 7.8; problem scale, 5.6. Of the five groups, the independent schools only approximate these standards. In drawing any conclusions concerning the relative performance of students in Minnesota schools and in those represented in Hotz's standards, it is advisable to bear in mind that the tests were given in Minnesota schools on an average three or four weeks before the end of the school year.

PLANE GEOMETRY

For the comparison of performance in plane geometry, the Columbia Research Bureau Plane Geometry Test was used. This test is made up of two parts, described as follows:²

Part I. True-False. This part is made up of 65 "true and false" statements concerning many aspects of the subject matter, such as the meaning of terms, propositions, corollaries, loci, problems, constructions, and formulas.

Part II. Problems. This part is made up of 35 problems ranging from very easy to very difficult. The student indicates his understanding and solution of the problems by means of numerical answers; but no burden of an arithmetical or computational sort is put upon the candidate, since he is allowed to indicate the necessary operations by the use of formulas and equations. It is a test of geometrical reasoning and not of exactness in arithmetical calculations. As in Part I, Part II embraces many types of reasoning problems from every part of plane geometry, and thus gives a reliable measure of ability to reason with geometrical material.

This test made its appearance after the testing project as a whole was already in progress. This accounts for the smaller number of schools in all but one of the different groups included

¹ Henry G. Hotz, *Teacher's Manual for First Year Algebra Scales*, p. 26. Teachers College, Columbia University, New York City, 1922.

² Herbert E. Hawkes and Ben D. Wood, *Manual of Directions* (for Columbia Research Bureau Plane Geometry Test), p. 1. Yonkers-on-Hudson, New York: World Book Co., 1926. The description is quoted by permission of the publishers.

in the comparison—that is, smaller than the number represented for first-year algebra. The exception is the group of large public high schools, where randomly selected class sections in nine different schools were tested. The small public schools tested in this subject include no schools of “medium” size as previously defined. The numbers of schools are, nevertheless, large enough to make the comparison almost as reliable as that for first-year algebra.

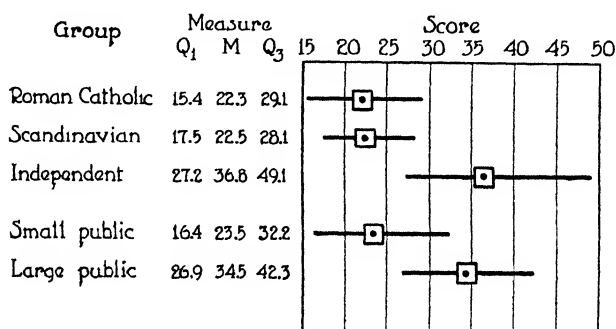


FIG. 25.—Median scores and ranges of middle 50 per cent of scores on Columbia Research Bureau Plane Geometry Test, Form A, in private and public secondary schools.

The measures shown in Figure 25 put the performance in Catholic, Scandinavian, and small public schools almost on a par. The group last named is seen to be only slightly superior to the first two groups. The performance in large public schools is much superior to that shown for Catholic, Scandinavian, and small public schools. This difference may be accounted for in part by better teaching, but almost certainly a greater influence is the selection among the students taking the subject. It is much more common to prescribe two years of mathematics for graduation in Catholic, Scandinavian, and small public schools than in large public schools, a fact which would tend to bring into the classes in plane geometry in the first three

groups of schools named the full range of ability enrolled in the school year for which this subject is listed, whereas in the larger public schools the tendency would be for some of the less capable not to elect the subject. The measures for independent schools are higher, but not notably so, than those for large public schools. This only moderate superiority of independent schools over large public schools has an explanation similar to that explaining the marked superiority of the measures in large public schools as compared with the groups of schools previously considered: all or almost all students in independent schools on the grade-level for which plane geometry is listed are required to take the subject, whereas the subject is not often a universal prescription in large public schools.

PHYSICS

The test used to measure achievement in physics is one devised by Hughes, consisting of two scales, one on "information" and the other on "thought." Illustrative of questions in the information scale are "How many poles does a magnet commonly possess?" (the test item of lowest value), "What is the name given to the instrument that is commonly used to compare the intensity of one light with that of another?" and "Two sounds are produced by forks making 140 and 150 vibrations per second. How many times a second will interference of sound occur?" Illustrative of questions in the thought scale are "If a one-pound ball falls 100 feet and all its energy is transformed into work how much work will be done?" "How should two cells be connected in a circuit in order to reduce the internal resistance?" and "How many times will the heating effect of a wire be multiplied if the electric current running through it be tripled?"

The comparison afforded in Figures 26 and 27 is virtually one between Catholic and public schools of the two size-

groups. For the second test thirty students in three independent schools are also included, but not with assurance that they are adequately representative of this group. The explanation

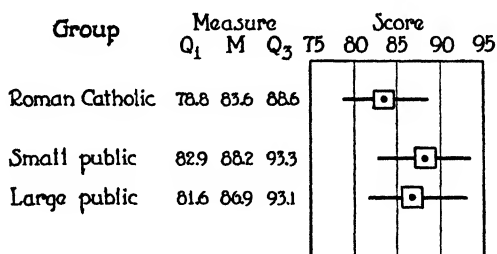


FIG. 26.—Median scores and ranges of the middle 50 per cent of scores on the Hughes Physics Scale, Information R, Division 1, in Roman Catholic and public secondary schools.

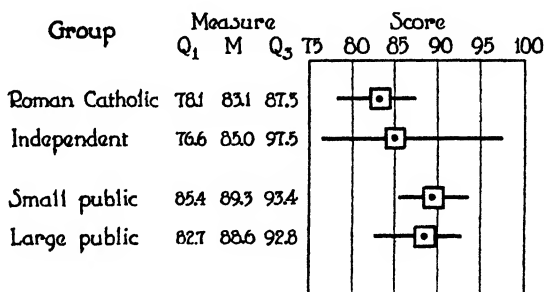


FIG. 27.—Median scores and ranges of the middle 50 per cent of scores on the Hughes Physics Scale, Thought R, Division 1, in private and public secondary schools.

of the disappearance of the Scandinavian and independent schools from the first of these figures and of the Scandinavian schools from the second is the typically small enrolment in upper classes and the common practice of offering physics and some other subject, usually chemistry, in alternate years, so as to assure classes of a size justifying the giving of the course. This reduces the likelihood that a course will be in progress at

the time of inspectional visitation—during expeditions for which the tests were administered. For Catholic and public high schools the numbers of schools and students tested are large enough to warrant reporting the findings. Both figures disclose the same situation, the notable superiority of the two groups of public high schools. There is also a slight superiority of the small public over the larger public group, a difference inexplicable unless it is occasioned by the nature or accident of the sampling of classes in the larger schools. The difference between Catholic and small public schools is the more remarkable when it is reported that three of the four Catholic schools are boys' schools in large urban centers. The measures for independent schools in Figure 27 show that for these three schools at least the performance does not manifest the usual superiority for this group.

CHEMISTRY

The test used in chemistry, the other field of science in which a comparison of achievement is made, is the Powers General Chemistry Test, Form A. This test is made up of two parts. The author of the test describes these parts as follows:¹

Part I is a test of range of information about chemistry. It is composed of 30 items. These items test a wide range of knowledge, including biography, chemical properties, chemical composition, commercial processes, and terminology. Part II consists of 37 items and tests ability to write formulas and equations, to give the chemical names of common substances, and to do simple calculations.

For the same reason as was given in discussing results on the test in physics, the numbers of schools and students in the Scandinavian and independent groups were too small to justify including them in the comparison. This restricts the comparison depicted in Figure 28 to Catholic and small and large

¹ S. R. Powers, *Manual of Directions* (for General Chemistry Test), p. 1. Yonkers-on-Hudson, New York: World Book Co., 1924. The description is quoted by permission of the publishers.

public schools. The medians for the three groups are not far from identical, that for the large public group being slightly higher than those for the two other groups. The interquartile ranges disclose wider variation for the small public group than for the Catholic and the large public groups.

AMERICAN HISTORY

The only test in history used in this investigation was Van Wagenen's American History Scale, Information Scale, S 3,

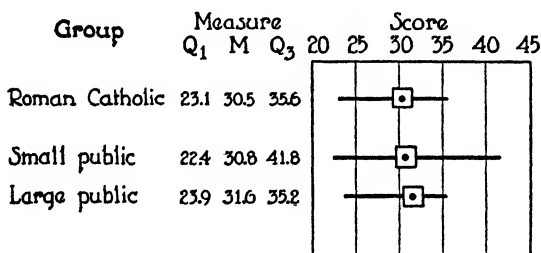


FIG. 28.—Median scores and ranges of middle 50 per cent of scores on the Powers General Chemistry Test, Form A, in Roman Catholic and public secondary schools (the measures reproduced are for combined scores on Parts I and II).

which is a test designed for use in Grades IX to XII. It is a scale intended for use at the end of the high-school course in American history and is described as "general," that is, as covering the full period of American history rather than some special period like that from the discovery to the Revolutionary War or from the Civil War to the present. The scale is made up of thirty "tasks" given in the order of scale values from 71 to 100 inclusive. The first and last tasks in the scale are (1) "What people came out victorious in the French and Indian War?" and (30) "Of these present-day social problems, which ones were problems of wide concern in the United States before 1830? Put a check mark before them: — Relation between capital and labor. — Protective tariff question. — De-

mand for a shorter working day. — Regulation and control of industrial corporations. — Maintaining neutrality during a European war. — Railway rate legislation. — Extension of suffrage to another group of people.”

It was planned to give the test only to classes taking the courses in American history or United States history and at or near the end of the period covered by the course. The number of schools in the groups was kept down (see Table XXXIV in Appendix) by the fact that in many schools the half-year course in this subject was given during the first semester of the school year. It was deemed inadvisable to test classes in schools in which the students were not at the time taking the course. The only exceptions are a few small public high schools in which the students were tested near the end of the semester following that in which they had taken the course. Any unfairness to this group on this account is in part compensated for by the fact that in a few other schools in this group the course had extended through two semesters, that is, a school year. Classes represented in the comparison in all groups of schools were made up of students in the last year or last two years of the high school only.

The median scores for such Catholic and small public schools as are represented are seen in Figure 29 to be practically identical. The interquartile range is, however, somewhat wider for small public schools, especially at the upper end. These measures for large public schools are somewhat, but not strikingly, lower than for small public schools. The only remaining group represented in the figure is the Scandinavian, and it is represented by but three schools and eighty-four students. Two of these schools are among those having large proportions of children with foreign-born fathers and from homes in which a foreign language is ordinarily spoken. All that can be said for the relatively low measures shown for this group is that they repre-

sent the situation in these three schools only. Probably the measures would be higher if more schools of the group were represented. The numbers of schools and of students in the independent group were too small to warrant reporting the measures computed for them. It is hardly likely that, in view of the numbers of schools and students in the other groups, the measures reported for them are accurately representative of the total situation.

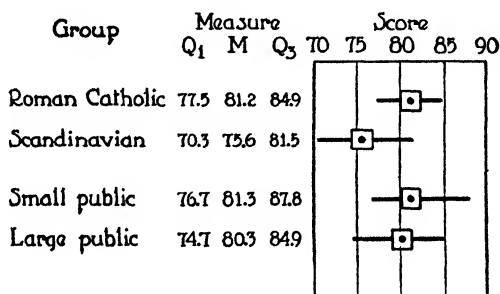


FIG. 29.—Median scores and ranges of middle 50 per cent of scores on Van Wagenen American History Scale, Information Scale S 3, General, in private and public secondary schools.

CIVICS

One of the arguments often put forward on behalf of a system of public secondary schools is the assurance that they will serve better than do schools on private foundations the need for training for, understanding of, and participation in civic affairs. The underlying assumption is that public educational institutions are, because of the fact of control by the public, more responsive to this need. It seemed desirable, therefore, to test out the tenability of the argument in so far as this may be done with the use of objective measures available. To this end the Brown-Woody Civics Test, Form A, was administered to Seniors in a large number of the schools represented in the materials of this and other chapters. The reason for testing

Seniors is the very obvious one of ascertaining the relative degree to which the different groups of secondary schools have rendered this service by the end of the school period over which they have control.

The test used may be best described in the words of its authors:¹

The Civics Test is based primarily upon the subject matter which is emphasized in the teaching of civics in the high school. Each exercise of the test is founded upon subject matter common to at least five of nine of the most widely used textbooks in civics, which were carefully and minutely analyzed preliminary to the construction of the test. In the construction of the different tests there was a definite attempt to select exercises emphasizing understanding of the vocabulary of civics, mastery of the facts of civics, and the application of the principles of civics to practical situations. Stated in slightly different fashion, the exercises emphasize information, habits, thinking, ideals, attitudes and appreciations. Although only three tests have been constructed, it is evident that all these aspects of civics are included.

Part I. Civic Vocabulary. Test I is designed to determine the extent of the pupil's mastery of the vocabulary encountered in the literature of civics. It consists of forty words common to all five of the nine textbooks, which were considered essential to an intelligent reading of the subject matter of the civics textbooks. This test is an "alternative answer" test, in which the pupil must select one of four given words or expressions which most nearly means the same as the indicated word in the vocabulary test. In building this test there was a definite attempt to incorporate words or expressions which were closely enough related to the given word in meaning or in form to insure a careful discrimination in choosing the proper response.

Part II. Civic Information. Test II is designed to measure the extent of the pupil's information in the special field of civics. It consists of eighty "yes or no" questions common to at least five of the nine textbooks. The questions are distributed over local, state, and federal government in approximately the same proportion as revealed in the analysis of subject

¹ Arold W. Brown and Clifford Woody, *Manual of Directions* (for the Brown-Woody Civics Test), pp. 1-2. Yonkers-on-Hudson, New York: World Book Co., 1926. The description is quoted by permission of the publishers.

matter in the textbooks. By including as many as eighty questions this test is of sufficient length to give reliable measurement.

Part III. Civic Training. Test III is designed to measure how well the pupil can apply the principles of civics to practical situations. The responses to these situations demand the application of what may be termed "civic thinking," and at the same time it is possible through them to determine whether the pupil possesses proper civic attitudes, ideals, and appreciations.

The numbers of schools and students (see Table XXXIV in Appendix) are large enough to be at least approximately representative of the several groups. Seven of the ten Catholic high schools represented are segregated (and also urban) schools, the intelligence quotients of whose students were seen in Table 12 of chapter ii to be somewhat higher than those of students in coeducational schools of this denomination. In the case of two of these schools not all Seniors were tested, the tests being given instead to a random selection of heterogeneous classes. The Scandinavian and independent groups are represented by the Seniors in three-fourths of all schools. The manner of designating the schools and students in the public groups to be tested has already been described. We may say further, however, that but three of the group of small schools enrolled more than a total of 200 students and are, therefore, in small communities. In the large public schools the students tested were in random class sections.

With the description of the test and of the schools before us, we are ready to direct attention to the medians and interquartile ranges reproduced in Figure 30. These measures are presented in two sets, (1) those for all Seniors tested, and (2) those for only such Seniors as during their high-school years have had courses in both American history and civics. There is a marked progression in the first set of measures from the Catholic to the Scandinavian and to the independent schools. The medians for the public groups lie between those for the Scandinavian and independent schools. The second set of

measures are all higher than the first set, but those for the public groups are only slightly higher. There is essentially the same marked progression as in the first set from one private group to another. The smaller increment for the public groups places the medians slightly below, but practically on a par

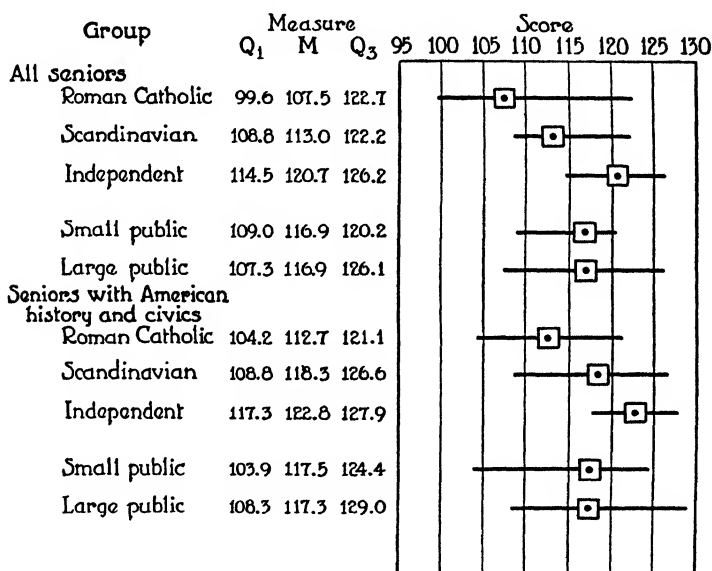


FIG. 30.—Median scores and ranges of middle 50 per cent of scores on Brown-Woody Civics Test, Form A, in private and public secondary schools of (1) all Seniors and of (2) Seniors having had both American history and civics.

with, that for Scandinavian schools. They are, however, considerably higher than the median for Catholic schools. This superiority is especially remarkable in view of the superiority of the intelligence quotients of Seniors in Catholic schools when compared with those of Seniors in small public high schools and their approximate parity with those of Seniors in large public high schools, as shown in Figure 11 of chapter ii.

In the public groups the scarcely appreciable superiority of

the measures of performance on this test for (1) Seniors having had American history and civics over (2) all Seniors (irrespective of their having had these courses) is to be explained by the much smaller proportions of Seniors in public high schools who have not had both the courses named. The figures in Table XXXIV in the Appendix show that the proportion in public schools reporting that they have had the two courses is not far from nine-tenths of all Seniors. The proportion for Catholic schools is about two-thirds; for Scandinavian and independent schools approximately a half. This evidence and that shown in the measures reported in Figure 30 afford some foundation for the argument cited at the opening of this section. Of all the groups of private schools the independent schools are least subject to it, largely owing to the superior general intelligence of their students and to the homes from which they come, as shown in chapter ii, and not so much because of efforts these schools make to see that all their students have regularly appointed opportunities for training in citizenship. It is clear enough from the evidence of Figure 30 that those who have these opportunities do better on the civics test than those who do not. A presentation of data on the performance on the test of those only who had not had such opportunities would make this fact even more apparent.

The suggestion was made earlier in the chapter that a complete impression of the results of this testing project cannot be given by measures of the sort that have been almost exclusively reported here. This suggestion is deserving of repetition. It is unfortunate that space cannot be spared for more extended illustration of the full distributions of scores. Lacking this, we may at least report, before leaving the presentation of the detailed evidence, the distributions of median scores for all the different groups of schools on one more test, this final one in civics. These distributions are shown in Table XII. They dis-

close again the wide variation in performance from school to school in all groups. The one group with a somewhat restricted range is the small public; and one may safely assume a much widened range in this group with increase in the numbers of schools represented. It should once more be stated that, owing to the method of sampling, the medians for the large schools should not be accepted as representative of the individual

TABLE XII
DISTRIBUTION OF MEDIANS ON THE BROWN-WOODY CIVICS TEST,
FORM A, OF SENIORS IN PRIVATE AND PUBLIC
SECONDARY SCHOOLS

Scores	Roman Catholic	Scandinavian	Independent	Small Public	Large Public
125-129 . .	1		1		2
120-124 . .		1	1	6	3
115-119 . .	3	2	3	4	2
110-114 . .	3	2	. . .	4	
105-109 . .	2	1	. . .	. . .	1
100-104 . .	1		1	. . .	1
Number of schools	10	6	6	14	9

schools so much as of the variation among students within large schools.

THE COMPARISON REPORTED BY THE EDUCATIONAL RECORDS BUREAU

In the foregoing chapter reference was made to a comparison of the intelligence of independent and public school students reported by Mrs. Wood for the Educational Records Bureau. In the same publication¹ are to be found a large number of statistical comparisons of performance on achievement tests by students in independent schools and in public high schools.

¹ Eleanor Perry Wood, *The Educational Achievement and Intelligence of Independent School Children*. Educational Records Bureau, Bulletin No. 2, 1929.

The independent schools are those associated with the Bureau and are located in eastern states. The public schools most frequently represented in the comparison are those in Pennsylvania. Data for the latter group pertain to Seniors only and were made available to the Bureau with the permission of the Carnegie Foundation. This organization had fostered a testing program in which 26,000 boys and girls in 605 schools in the state took part.¹

Instead of reporting the detailed findings of this large undertaking, the general conclusions with minor omissions only will be quoted. These are—²

1. Independent school students are clearly superior in median achievement in nearly all subjects.

2. Independent school students are particularly strong in English, Latin (below the twelfth grade), plane geometry, physics, and reading. In elementary subjects independent school children showed greatest acceleration in reading and language usage. They were superior also in spelling, history and literature, nature study and science. Superiority in arithmetic was made doubtful by relatively low results on one of the arithmetic tests.

3. Independent school students are weak in German and American history to the extent of being surpassed in achievement by public school students, and are about equal to public schools in chemistry and music, geography and handwriting.

4. *Most of the superior achievement of independent school children can be adequately explained by their superior intelligence and social background without recourse to speculations on relative merits of the two types of schools in terms of faculties, curricula, equipment, etc. . . .*³

5. There is much variation in the standards and achievement of different independent schools, the schools lowest in rank of median score frequently more nearly approximating public school norms than they approximate the average of the group of independent schools.

6. There is as much overlapping of classes and grades among independent schools as among public schools. . . .

¹ *Ibid.*, p. 4.

² *Ibid.*, p. 61.

³ The italics are the present writer's and not those of the report from which the quotations are made.

The extent of coincidence of conclusions from this large-scale comparison and that afforded by the materials of the present chapter pertaining to independent and public schools is nothing less than remarkable. In no major and in only a few minor respects are there disagreements in the findings. In other words, the two comparisons are mutually corroborative. This fact sustains the assumption already made in this book, that the situation within a single state like Minnesota is in essential aspects an epitome of that which would be disclosed by a nation-wide comparison of the same nature.

CONCLUSIONS FROM THE PRESENT COMPARISON

No easy task confronts one in attempting to generalize from the evidence of the present chapter. Its diverse and at times conflicting elements discourage the drawing of any large number of sweeping and unequivocal conclusions. However, the following brief statements in summary seem warranted:

1. The most unequivocal conclusion to be drawn relates to the superior performance in the independent schools. In a few only of the measures taken do these schools not rank highest, and these are in subjects for which there was relatively small representation in one or more groups of the comparison. The temptation arises, however, to requote, because of its appropriateness, a statement in the summary of the comparison of independent schools and Pennsylvania high schools: "Most of the superior achievement of independent school children can be adequately explained by their superior intelligence and social background without recourse to speculations on relative merits of the two types of schools in terms of faculties, curricula, equipment, etc."

2. The honors are more evenly divided between Roman Catholic, Scandinavian, and public secondary schools. At the same time, after counting the frequency with which Catholic

schools and public schools are practically on a parity in the medians reported, one finds that Catholic schools are more often lower than they are higher than the public groups. Usually the differences are not large, but in three subjects the measures for Catholic schools are strikingly lower. This general situation is especially remarkable in view of the appreciably superior general intelligence of students in Catholic schools, at least on the level of the last high-school year.

3. The records of the Scandinavian schools are less consistent than those for any other group. They are sometimes higher than, sometimes on a par with, and sometimes lower than the Catholic or public groups. They suffer most in the comparison in tests showing ability in English, the relatively low positions being doubtless explained by their large proportion of students with foreign-born fathers and from homes in which either a foreign language or a foreign language and English are ordinarily spoken.

4. The relative position of public schools considered as a single group may be judged from the foregoing statements: typically, although not universally, they compare favorably with all groups but the independent schools. This is the more surprising in view of the evidence of the appreciable intellectual superiority of Catholic and Scandinavian groups over the public-school groups already referred to in this summary.

5. When small public and large public groups are compared with each other, the large public groups are found to be predominantly, but far from always, superior to the small public schools.

6. One of the most important inferences to be drawn, and one that is certainly among the least equivocal, is the conclusion emphasizing the wide variation of performance from school to school within each of the several groups and the overlapping of the performance of these groups on each other.

This is shown in the illustrative distributions of median scores for the schools within each group, a type of evidence that might easily have been multiplied, had space permitted. From these distributions it is apparent that overlapping would have been shown even more in a representation of the full ranges of scores made by individual students within the groups of schools. There is scarcely an approach to horizontal separation by ability or performance in the groups of schools represented in this investigation.

IV

SUCCESS IN THE UNIVERSITY

THE PLAN OF THE PROJECT

Comparison of the success in higher institutions of the graduates of the different groups of secondary schools, public and private, is not easily accomplished. It is hedged about by a great variety of obstacles, and there are a number of factors that must be controlled before one may feel at all assured that valid and comparable measures of success have been obtained. The materials of the present chapter are presented with some confidence that the most serious obstacles have been removed, that the most significant variables have been controlled, and that the findings have sufficient reliability to be taken seriously.¹

One of the most troublesome variables in such an investigation—the diversity of the marking systems from institution to institution—has been controlled by measuring the success of the secondary-school graduates in a single higher institution. This is the University of Minnesota. This element is further controlled by the fact that all the graduates considered entered a single college of the University, the College of Science, Literature, and the Arts. No students entering the other colleges of the University as Freshmen are represented.

¹ This report is based on an investigation made under the writer's direction by Mr. John M. Bly of the faculty of the College of St. Olaf, Northfield, Minnesota. While at work on the project the investigator had access to records on file in the research laboratory of Professor Donald G. Paterson of the University of Minnesota. The present writer desires to express at this point his appreciation of the careful discriminating work of the investigator as well as of the generous co-operation of Professor Paterson in making the records available.

The comparison of scholarship is by two methods. The first is a comparison of the scholarship of all entrants from the private schools with that of a random sampling of entrants from public high schools of the state. The entrants are divided into groups according to sex and the location of the schools from which they were graduated; that is, as to whether the schools were in the Twin Cities (Minneapolis and St. Paul) or in Minnesota outside the Twin Cities. The entrants from private schools were treated as a single group and also in three groups corresponding to those made in other chapters, namely, Roman Catholic, Scandinavian, and independent. The second comparison is made by means of matched groups, the matchings taking account of college aptitude, sex, age, and location of schools within and without the Twin Cities. The grouping of students is the same as in the first method. Details of both methods will be described at appropriate points subsequently; perhaps enough has been said to indicate that the aim of the first method is to compare the scholastic success of the usual run of those who enter from these several groups of schools and the second to compare the scholastic success of students of equal ability from these same groups.

THE STUDENTS INCLUDED IN THE COMPARISON

Before turning directly to the comparisons as outlined it will be desirable to provide some further description of the groups of students represented. This will be accomplished by indicating the numbers in the different groups, the manner of selecting them for inclusion in the study, their ability as shown on a test of college aptitude administered to all entering Freshmen at the University, and certain facts concerning their age.

The numbers of students from private secondary schools included in the comparison have been compiled in Table XIII.

The total number entering the College of Science, Literature, and the Arts from all such schools at the beginning of the seven school years from 1922 to 1928 was 642. The period of years represented was made as long as this in order to bring up the number of students to significant proportions. Of these, 300 were men and 342 were women. The numbers from schools from within and without the Twin Cities were, respectively, 508 and 134.

TABLE XIII

NUMBERS* OF FRESHMEN ENTERING THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS OF THE UNIVERSITY OF MINNESOTA BY SEX FROM EACH GROUP AND ALL GROUPS OF PRIVATE SECONDARY SCHOOLS, 1922-28

SEX	TWIN-CITY SCHOOLS				NON-TWIN-CITY SCHOOLS				ALL PRIVATE SCHOOLS
	Roman Catholic	Scandinavian	Independent	All Private	Roman Catholic	Scandinavian	Independent	All Private	
Men	127 (4)	70 (4)	19 (3)	216 (11)	19 (7)	2 (1)	63 (2)	84 (10)	300 (21)
Women	181 (5)	28 (3)	83 (4)	292 (12)	15 (5)	1 (1)	34 (2)	50 (8)	342 (20)
Both	308 (9)	98 (4)	102 (6)	508 (19)	34 (11)	3 (2)	97 (4)	134 (17)	642 (36)

* The numbers in parentheses are the numbers of different schools of which the entrants are graduates

The reader may note the distribution of these numbers to the different groups of schools.

The numbers of different schools from which these students entered are indicated by the numbers in parentheses in the table. The total number of different schools represented is 36, of which 20 were Roman Catholic (9 Twin-City schools and 11 non-Twin-City schools), 6 were Scandinavian, and 10 were independent schools. (See lowest row of numbers in parentheses.) One of the Catholic schools was not accredited during the period covered, the 2 students included being admitted on other credentials. It is significant for the comparison that the

remaining 35 schools constitute not far from three-fourths of all private secondary schools in the state accredited to the University of Minnesota.

The numbers of entrants from public high schools in the state included in the comparison have been compiled in Table XIV. The sampling was made from those entering the College of Science, Literature, and the Arts in the fall of 1924 and 1926 because these years come near the middle of the period 1922 to 1928, the years of entrance of the private-school graduates included in the comparison. Before taking the sam-

TABLE XIV
NUMBERS OF FRESHMEN ENTERING THE COLLEGE OF SCIENCE,
LITERATURE, AND THE ARTS FROM PUBLIC HIGH SCHOOLS IN
1924 AND 1926 INCLUDED IN THE COMPARISON

Sex	Twin-City Schools	Non-Twin-City Schools	All
Men	263	538	801
Women	257	286	543
Both	520	824	1,344

pling, the test booklets for all entrants from public high schools were separated into four groups, namely, Twin-City men, Twin-City women, non-Twin-City men, and non-Twin-City women. The sampling of Twin-City students, both men and women, was made by taking every third case. All non-Twin-City entrants were taken. Thus, the only sense in which the non-Twin-City entrants constitute a sample is in the fact that they come from only two of the seven years from which the entrants from private schools were drawn. The sample of entrants from public high schools in the Twin Cities is fully as large as the number of students from private schools in these cities. The number from public high schools outside is six times as large as the number of entrants from private schools outside.

The adequacy of the representation of public schools can hardly be questioned. The representation for private schools, although not fully satisfactory for all possible small groups, is adequate for the whole group of schools and for enough of the small groups to warrant any conclusions of consequence drawn.

The proportions which those from private schools are of all

TABLE XV

NUMBERS OF FRESHMEN ENTERING THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS IN THE UNIVERSITY OF MINNESOTA FROM PUBLIC HIGH SCHOOLS IN MINNESOTA, FROM PRIVATE HIGH SCHOOLS IN MINNESOTA, FROM OTHER SOURCES IN MINNESOTA, FROM OUTSIDE OF MINNESOTA, AND FROM ALL SOURCES, 1924-25 TO 1927-28, INCLUSIVE*

SCHOOL YEAR	PUBLIC SCHOOLS IN MINNESOTA			PRIVATE SCHOOLS IN MINNESOTA			OTHERS IN STATE	OUTSIDE OF MINNE- SOTA	TOTALS
	Twin- City	Non- Twin- City	All	Twin- City	Non- Twin- City	All			
1924-25	794	415	1,209	73	15	88	4	184	1,485
1925-26	793	420	1,222	73	11	84	2	204	1,512
1926-27	746	499	1,245	86	19	105	.	191	1,541
1927-28	815	468	1,283	84	27	111	3	171	1,568
Totals	3,148	1,811	4,959	316	72	388	9	750	6,106

* Based on statistics of registration reported by the Registrar of the University of Minnesota in the President's reports for these school years. The *President's Report* is published each year as a bulletin of the University of Minnesota.

entrants to the College of Science, Literature, and the Arts may be seen in a comparison of the numbers entering from public high schools of the state and from other sources. Such a comparison is afforded by Table XV, which reports the numbers of entering Freshmen for the four school years from 1924-25 to 1927-28, inclusive. The numbers are those for the full school year, and not only those entering during the autumn quarter. For all four years the number entering from private schools within the state is 388. This is 7.3 per cent of the 5,347 Freshmen (4,959 from public high schools and 388 from private high

schools) entering from public and private schools in the state. It is 6.4 per cent of all students entering this college. The proportions from private schools are about the same as these percentages for all Freshmen entering the University. For example, during 1927-28 the total number of Freshmen entering the University was 2,517, of whom 153, or 6.1 per cent, came from private secondary schools in the state.

Of these 153 students, 78 were graduates of Catholic schools, 36 of Scandinavian schools, and 39 of independent schools. This means that of the entrants from private schools approximately a half were from Catholic schools and approximately a fourth from each of the other two groups. These are far from the same proportions in which students are enrolled in each of the groups of private schools. It may be reported that the enrolment in 1928-29 in all private secondary schools accredited to the University was 7,152. These were distributed to the three groups as follows: Catholic, 5,327, or 74.5 per cent; Scandinavian, 925, or 12.9 per cent; independent, 900, or 12.6 per cent. That is, the proportion of entrants from Catholic schools is much smaller and that from Scandinavian and independent schools much larger than the proportionate enrolment of students in these schools.

THE "COLLEGE APTITUDE" OF THE ENTRANTS

The comparison of the ability of students in the several groups is facilitated by the procedure in the University of Minnesota of reducing the students' scores on a test of "college aptitude" to percentile ranks. The meaning of the percentile in this procedure may be made clear by illustration: when one counts through 20 per cent of the scores on the college-aptitude test arranged in the order from lowest to highest to arrive at the score of a given student, his percentile or percentile rank is 20. In this case 80 per cent of the students

had higher scores than this student. An advantage of the percentile is that, with a large number of students represented and the ability of these groups fairly stable from one year to the next one, the percentile ranks over a short period of years are directly comparable, even when the tests differ somewhat from year to year. The conditions as to numbers and stability may be assumed to be met in a large state university.

The first set of comparisons, afforded by Figure 31, is of students in all the groups of entrants from private schools combined with the samples of entrants from public schools. The comparison of all students from private schools, that is, men and women from both Twin-City and non-Twin-City schools, with the total of public schools represented, measures for which are to be found at the foot of the figure, shows the two groups to be very much alike in college aptitude, but with appreciable superiority for the private group. The similarity is also apparent in the measures for men and women combined when considered in Twin-City and non-Twin-City groups, except that the private group from non-Twin-City schools is somewhat more noticeably superior to the corresponding public group.

When men and women are separately compared there is evidence of greater differences. Men from private schools in the Twin Cities have percentile ranks notably lower than men from public schools in the same cities, whereas men from private schools outside these cities have percentile ranks strikingly higher than men from non-Twin-City public schools. Logically, therefore, when data for men from Twin-City and non-Twin-City schools are combined, the differences in the measures almost melt away. The differences for women in Twin-City and non-Twin-City groups are, singularly enough, in the opposite direction from the differences just seen for men, and they likewise practically melt away when Twin-City and non-Twin-City groups are combined.

The several rather large differences just noted rouse one's curiosity as to whether or not they are caused by differences between our three groups of private schools, namely, Catholic, Scandinavian, and independent. Measures for entrants from

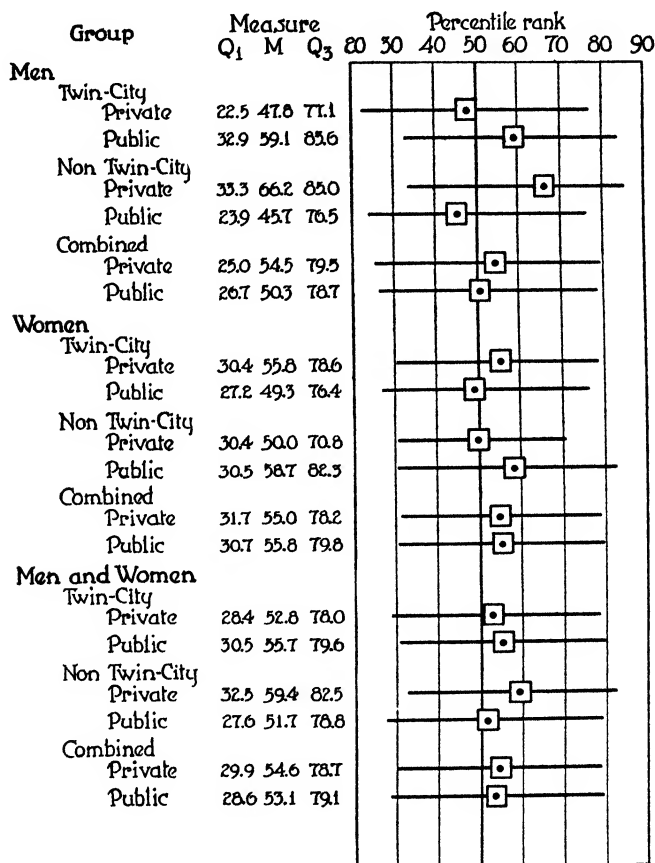


FIG. 31.—Median percentile ranks and ranges of the middle 50 per cent of percentile ranks on the college-aptness test of entrants to the College of Science, Literature, and the Arts of the University of Minnesota from private and public secondary schools.

Twin-City private schools of these three groups are depicted in Figure 32. Large differences are the rule, these differences being in identical directions for the two sexes separately and for

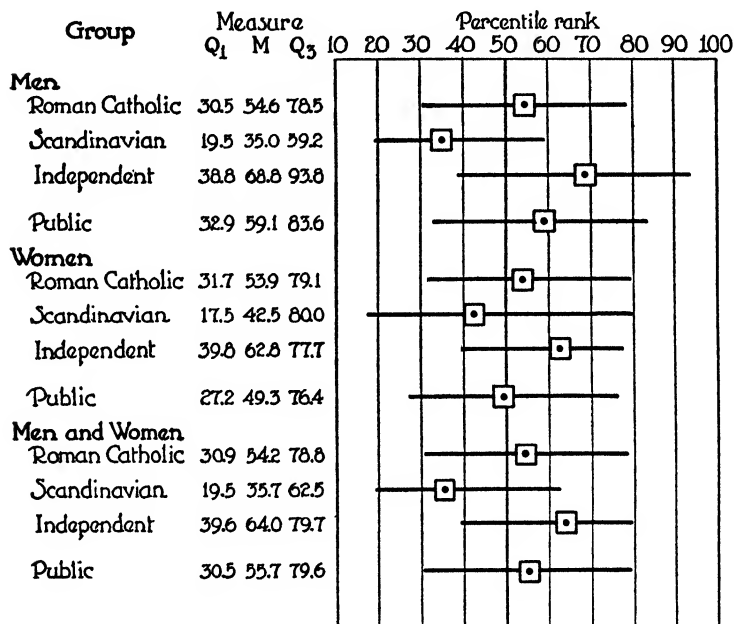


FIG. 32.—Median percentile ranks and ranges of the middle 50 per cent of percentile ranks on the college-aptness test of entrants to the College of Science, Literature, and the Arts of the University of Minnesota from Twin-City Roman Catholic, Scandinavian, independent, and public secondary schools.

both together. The measures for Catholic men are most nearly similar to those for public men, but somewhat lower. Scandinavian men are much lower and independent men considerably higher. The measures for Catholic women are most nearly similar to those for public women, but somewhat higher. The measures for Scandinavian women are low, but higher than for Scandinavian men. These measures for Scandinavian students

seem to be reflecting the influence of the same linguistic handicap shown for them in the achievement-test scores of chapter iii. Independent women are, as are independent men, the highest group.

Because there are almost no entrants from non-Twin-City Scandinavian schools this group is not represented in Figure 33.

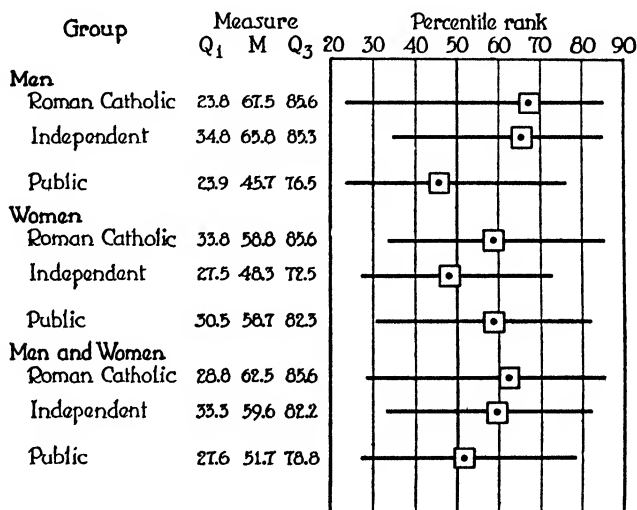


FIG. 33.—Median percentile ranks and ranges of the middle 50 per cent of percentile ranks on the college-aptitude test of entrants to the College of Science, Literature, and the Arts of the University of Minnesota from non-Twin-City Roman Catholic, independent, and public secondary schools.

The numbers for the two remaining groups, the Roman Catholic and the independent, are not large, but the measures compiled for them are deserving of some consideration. Both Catholic and independent men are found to be superior to public men. The measures for women from Catholic schools are almost identical for women from public schools. Those for independent women are lower. Through the influence of the

high measures for men, the measures for men and women combined in both Catholic and independent groups are higher than those for students from public schools. The superiority of the private groups from non-Twin-City schools is more unquestionable than for Twin-City schools.

THE AGE OF ENTRANTS

The median ages of all entrants from private and public schools considered in this comparison are shown in the two lowest rows of figures in Table XVI to be identical. The first and third quartiles are also only a few months apart. The only really remarkable variation from these measures are those for men from Scandinavian schools in the Twin Cities. These men tend to be much older than students in other groups. It is a singular fact that the measures for women from Scandinavian schools in the Twin Cities are the youngest of all groups represented. The greater age of men from Scandinavian schools is in harmony with the evidence on the ages of students in these schools reported in chapter ii, except that data for the two sexes were not separated: the percentage of over-ageness was larger in this group than for any other. What is at least a partial explanation was offered at that point. Other tendencies to difference to be noted in passing in the present materials are somewhat greater measures for all groups of men from private schools than from public schools in the Twin Cities, the lower age of women than of men entrants, and the greater age of Twin-City than of non-Twin-City students.

A COMPARISON OF SCHOLARSHIP

Both comparisons of the success in the University of the graduates of private and public secondary schools are by means of the average "honor-point ratio" for the first quarter of residence. In the University of Minnesota "honor points" are

assigned as follows: for each credit hour with a mark of A, 3 honor points; for each credit hour with a mark of B, 2 honor

TABLE XVI

FIRST-QUARTILE, MEDIAN, AND THIRD-QUARTILE AGES OF ENTRANTS TO THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS OF THE UNIVERSITY OF MINNESOTA FROM PRIVATE AND PUBLIC SECONDARY SCHOOLS

(Ages in Years and Months)

Group	First Quartile	Median	Third Quartile
Men:			
Twin-City			
Roman Catholic	17-11	18-6	19-2
Scandinavian	18-10	21-11	23-5
Independent	18-1	18-8	19-10
Public	18-0	18-4	19-1
Non-Twin-City			
Roman Catholic	18-0	18-8	19-11
Independent	17-11	18-9	19-4
Public	18-1	18-9	20-0
Women:			
Twin-City			
Roman Catholic	17-6	18-2	18-9
Scandinavian	17-2	17-9	18-11
Independent	17-9	18-4	19-0
Public	17-5	18-1	18-10
Non-Twin-City			
Roman Catholic	17-10	18-2	19-8
Independent	17-11	18-6	19-4
Public	17-4	18-1	18-11
Men and Women:			
Twin-City and non-Twin-City (combined)			
Private	17-10	18-5	19-7
Public	17-8	18-5	19-4

points; for each credit hour with a mark of C, 1 honor point; for each credit hour with a mark of D or F, 0 honor points. Although in the University no distinction is made between marks of D and F in honor points assigned, for the purposes of the present study each credit hour with a mark of F was as-

signed — 1 honor point. This procedure will explain the negative averages to be found among the measures reported below. Conditional marks of E, records of “incomplete,” cancellations of registration, and students leaving without record did not enter into these calculations, but their significance for the comparisons will be pointed out before drawing final conclusions from the evidence.

There may be some question of the merit of a comparison on the basis of the first quarter of work only. Unquestionably, there are individual students who achieve a higher honor-point ratio during the second quarter after they have learned to adjust themselves to the new situation. However, the usual high correlations of first-quarter and second-quarter (or first-semester and second-semester) records justify the present comparison, even if they are not near enough to unity to warrant dismissal by routine methods of all students with low honor-point averages for the first quarter or semester of residence in higher institutions.

The first comparison, as outlined near the opening of the chapter, is of the success as measured by this honor-point ratio of entrants from private schools with the random sample of entrants from public schools concerning whom data on college-aptitude and age have already been reported. The numbers of students represented in the comparison are the same as reported in Tables XIII and XIV except for the subtractions just mentioned because of conditions, incompletes, cancellations, and total absence of record.

Considering first the ratios for all students in the private and public groups, we find in the measures reported at the bottom of Figure 34 that the scholastic records of students entering from private schools tend to be somewhat inferior to those of students from public schools. The median difference in favor of the public schools is .08 honor point, a difference computed

to be statistically significant. The differences for Twin-City and non-Twin-City students, shown immediately above the

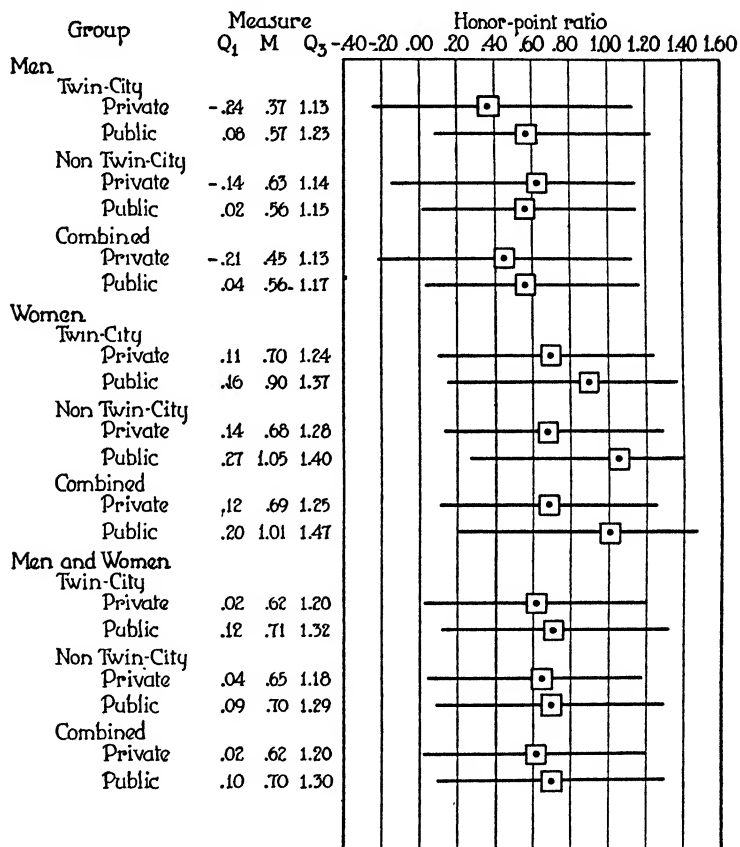


FIG. 34.—Median honor-point ratios and ranges of middle 50 per cent of honor-point ratios during the first quarter of attendance in the College of Science, Literature, and the Arts of the University of Minnesota of students from private and public secondary schools.

measures just noted, are in the same direction. They are, however, not of the same magnitude, being slightly larger for

Twin-City students and appreciably smaller for non-Twin-City students.

While directing attention to the superiority in scholarship of the public group we should not lose sight of the large extent of overlapping of the private and public groups. The fact is that, with the measures as they are, there is very much more of overlapping than there is of differentiation between them.

When students of the two sexes are considered separately there is but a single pair of comparisons, that for men in non-Twin-City groups, in which the measures are not all superior for the public group; and here only the median ratio is higher, both quartiles being lower. The differences are typically larger than for men and women combined.

As with percentile ranks of college aptitude, we are interested, not merely in comparisons of students from private schools as a composite group with those from public schools, but also in the relative success of students from the separate groups of private schools. These comparisons are at hand for Twin-City schools in Figure 35 and for non-Twin-City schools in Figure 36. Examining first the data for men and women combined in the lower portions of Figure 35, we find the three private groups, Catholic, Scandinavian, and independent schools, showing a progression of increasingly higher measures in the listed order. The lower quartile and median for public schools lie between the corresponding measures for the Scandinavian and independent groups, but the upper quartile is identical with that for independent schools. Essentially the same progression obtains for men (see upper portion of Figure 35), but the median and upper quartiles for public schools are just below these measures for Scandinavian schools. The measures for women do not respect this progression, even as to medians, since the median for Scandinavian women is the lowest of the four medians shown. This low place for Scan-

dinavian women may be owing to the small number represented (see Table XIII). The quartiles, upper and lower, do not show such consistency as do those for men and men and women combined.

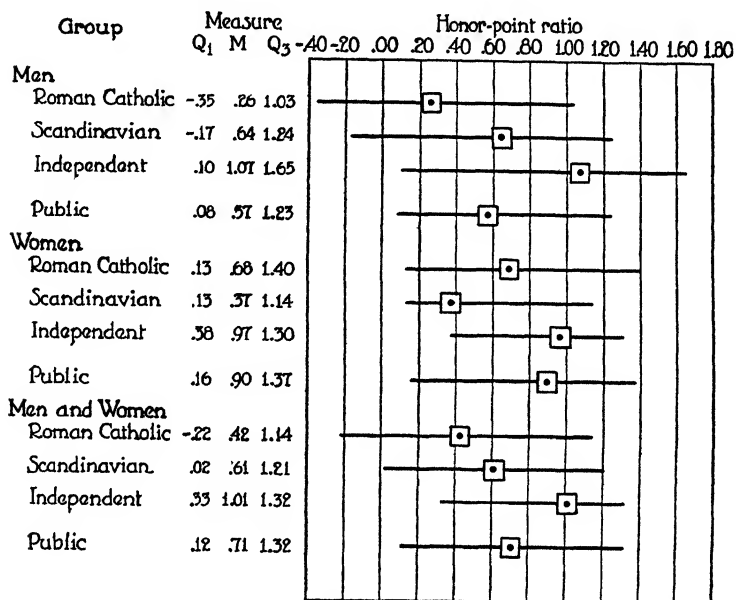


FIG. 35.—Median honor-point ratios and ranges of middle 50 per cent of honor-point ratios during the first quarter of attendance in the College of Science, Literature, and the Arts of the University of Minnesota of students from Twin-City Roman Catholic, Scandinavian, independent, and public secondary schools.

The comparison of non-Twin-City groups includes only Catholic, independent, and public schools. This is because there were almost no entrants from Scandinavian schools outside the Twin Cities. In this comparison public schools are consistently, but sometimes only slightly, superior to the two private groups. As between Catholic and independent schools, all measures considered, honors are somewhat divided.

In considering the measures in comparison of all entrants from private schools with entrants from public schools in the lower portion of Figure 34 it was stated that the difference of

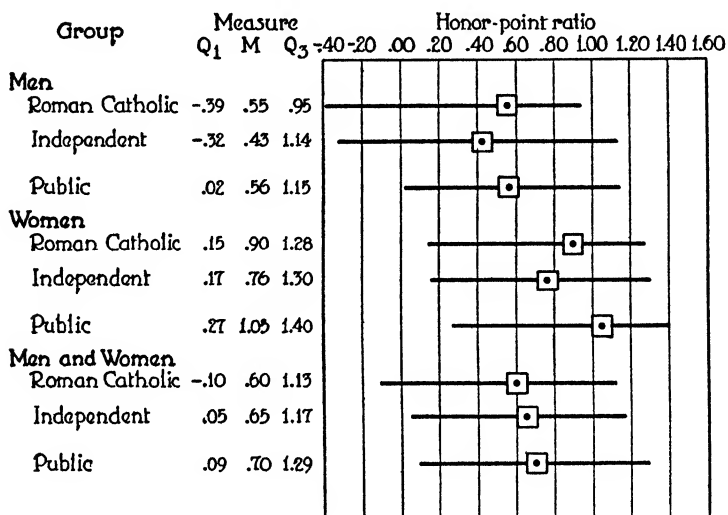


FIG. 36.—Median honor-point ratios and ranges of middle 50 per cent of honor-point ratios during the first quarter of attendance in the College of Science, Literature, and the Arts of the University of Minnesota of students from non-Twin-City Roman Catholic, independent, and public secondary schools.

.08 in the honor-point ratios was “computed to be statistically significant.” The computation made was by the use of a standard formula for the purpose.¹ The measures for all large groups

¹ In order to simplify as far as possible the presentation of the materials, the data on significance are not being reported. All computations were made by the use of Formula 22 on page 136 and the table on page 135 of Henry E. Garrett's *Statistics in Psychology and Education* (Longmans, Green & Co., 1926). In the instance of this difference between the ratios for students from all private schools and those from public schools the probable error (of the difference) is .0368. The quotient of the difference divided by this probable error is 2.17. This ratio of 2.17 is sufficiently large, according to the table in Garrett, to insure that chances are 93 in 100 that the true difference between the variables is greater than zero.

in the comparisons were found to be significant differences. Those for smaller groups are less so. For these smaller groups significance must be sought in the consistency of the differences, a consistency already found and commented upon.

The measures of scholarship so far reported are based only upon students whose records for the first quarter were complete, which includes, of course, the great majority of students. There are, however, a number whose records are not in a form to make possible the computation of the honor-point ratio. These students fall into four classifications, (1) those for whom conditional marks of E were recorded, (2) those with "incompletes," (3) those whose registration had been canceled, and (4) those for whom there was no scholarship record of any sort. It is safe to assume that if calculable marks had been recorded for these students they would have tended to lower the honor-point ratios already considered; also, that for those groups with the largest proportions of students with records deficient in this way, the medians would have been reduced more than for groups with small proportions.

In the light of these assumptions we may conclude from the last two columns in Table XVII, which presents the percentages in all groups with deficient records, that if a full count of entrants were represented the comparison in the lower portions of Figure 34 would be even less favorable to the private schools than it is, and the difference between the private and public groups would be greater than as depicted. Scrutiny of the columns headed "all private" and "public" in Twin-City schools shows the percentages from private schools to be twice

This is to say that the difference in median honor-point ratios is large enough to be a significant difference. Computations for significance of differences were also made for the differences in percentile ranks of scores on the college-aptitude test on which report was made above, with conclusions analogous to those summarized here.

as large as those from public schools, while the proportions for these two groups in non-Twin-City schools are not far from equal. The inference seems warranted that the better record of public schools with respect to these proportions is almost entirely attributable to the group from Twin-City public schools. The reader may find it interesting to note the proportions for the different groups of private schools, but is admon-

TABLE XVII

PERCENTAGES OF STUDENTS FROM PRIVATE AND PUBLIC SECONDARY SCHOOLS IN THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS OF THE UNIVERSITY OF MINNESOTA WITH DEFICIENT RECORDS AT THE END OF THE FIRST QUARTER OF RESIDENCE

SEX	TWIN-CITY SCHOOLS					NON-TWIN-CITY SCHOOLS				TWIN-CITY AND NON-TWIN-CITY SCHOOLS	
	Roman Cath- olic	Scan- dina- vian	Inde- pend- ent	All Pri- vate	Public	Roman Cath- olic	Inde- pend- ent	All Pri- vate	Public	Pri- vate	Public
Men	17 4	18 6	5 3	16 7	7 2	10 4	14 4	13 2	14 4	15 5	12 2
Women	15 5	7 2	17 7	15 1	7 8	26 8	5 8	12 0	9 2	14 5	8 5
Both	16 2	15 3	14 7	15 7	7 4	17 6	11 3	12 7	12 6	15 1	10 7

ished not to draw momentous conclusions without regard for the total numbers of students in the different groups as reported in Table XIII. One would not, for instance, be disposed to make much of the large percentage of deficient records for Catholic women from non-Twin-City schools after it is seen that the total number of women represented in the computation is only 15.

A COMPARISON OF SCHOLARSHIP BY THE MATCHING METHOD

After having examined the evidence in the foregoing comparisons on college aptitude and scholarship of the students from private schools with the random sampling of students

from public schools the inquiring reader will doubtless already have attempted in a preliminary way to explain the differing degrees of success by relating them to the differing abilities as shown by the test of college aptitude. The question likely to arise is, Given students of equal ability from the different groups of schools, does the superior success of students from this or that group persist? It seemed best to face this question directly, rather than to leave its answer to cursory inspection of the evidence up to this point.

To this end resort was taken to the matching technique, a method of matching students in one group with respect to certain variables in order to ascertain differences occasioned by an important remaining variable. The variable whose influence it is sought to measure in this comparison is obviously the type of school, that is, private as compared with public, or one group of private schools as compared with other groups of private schools or with public schools. In this part of the investigation students from the different groups of schools were matched by location of school (Twin-City or non-Twin-City), sex, age, and college aptitude. Thus, a male graduate of a Twin-City private school would be matched with as many male students from Twin-City public schools as could be found in the whole group of students entering during the period covered by the comparison. Age was defined in terms of six-month units, reckoning from the first of September of the year of entrance, the matching being within a single six-month unit. College aptitude was defined in terms of percentile ranks, the matching being within step intervals of two points, that is, 0-1, 2-3, 4-5 98-100. An investigation of this type is in effect an experimental comparison of scholarship in which location of school, sex, age, and college aptitude are the variables controlled and, as already stated, the type of school is the variable whose influence it is sought to measure.

As may be seen in Table XVIII, a total of 431 students from

private schools were considered for this matched comparison. These were all graduates of private schools who entered the College of Science, Literature, and the Arts during the five years, 1922 to 1926.¹ Although this number were considered for the comparison, not all were finally represented in it. Omissions from the total number were made for the two reasons

TABLE XVIII

DISTRIBUTION OF STUDENTS FROM PRIVATE SCHOOLS IN THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS OF THE UNIVERSITY OF MINNESOTA BY LOCATION OF SCHOOL, BY SEX, AND BY STATUS WITH RESPECT TO THE COMPARISON WITH STUDENTS FROM PUBLIC SCHOOLS

STATUS	TWIN-CITY			NON-TWIN-CITY			TOTALS
	Men	Women	Total	Men	Women	Total	
Included in comparison	89	151	240	41	21	62	302
Excluded: deficient record	14	22	36	5	3	8	44
Excluded: without match	41	27	68	7	10	17	85
Totals	144	200	344	53	34	87	431

indicated in the left-hand column of the table. (1) The first reason is the same as that reported above as occasioning the omission of students from the comparison by sampling: that the records were in such form that the honor-point ratio for these students could not be computed. The deficiencies have already been listed as including conditional marks, "incompletes," cancellations of registration, and complete absence of scholarship record. (2) The second reason for omission was that no match could be found among students entering from public high schools in the state within the restrictions of the procedure in

¹ This particular study did not extend over as many years as the comparison by random sampling because data for it were gathered and tabulated previously to pressing the work on the comparison by sampling.

matching as outlined. It would have been possible to include almost all in the comparison if either the interval of percentile rank on the college-aptitude test or that of age or both had been widened, but such a procedure would have reduced the validity of the comparison. The number of graduates of private schools actually included in the matching comparison, according to Table XVIII, is 302.

The total number of different students selected by the matching method from among entrants from public high schools

TABLE XIX

DISTRIBUTION OF STUDENTS FROM PUBLIC SCHOOLS IN THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS OF THE UNIVERSITY OF MINNESOTA BY LOCATION OF SCHOOL, BY SEX, AND BY STATUS WITH RESPECT TO THE COMPARISON WITH STUDENTS FROM PRIVATE SCHOOLS

STATUS	TWIN-CITY			NON-TWIN-CITY			TOTALS
	Men	Women	Total	Men	Women	Total	
Included in comparison	313	568	881	102	46	148	1,029
Excluded. deficient record	22	50	72	14	8	22	94
Totals	335	618	953	116	54	170	1,123

may be seen in Table XIX to be 1,123. These were all the matched cases from public schools that could be found among entrants to this college during the years included in this part of the study. Of these students 94 had to be excluded because of deficient records, leaving 1,029 cases for actual representation in the comparison.

Before passing on to interpretation of the results of this comparison we may stop to comment on the proportions of students in the private and public groups considered who had deficient records and who, therefore, were excluded in the comparison. In the private group the 44 students thus excluded

were 12.7 per cent of the 346 students left after those had been excluded for whom no match could be found in the public group. In the public group the 94 students thus excluded were 8.4 per cent of the whole group of matched students originally selected for the comparison. This means that the proportion is fully a half larger for the private group than for the public group. According to the assumptions of the analogous treatment of the foregoing section, if calculable marks had been recorded for these students, they would have tended to lower the honor-point ratios to be reported below, and they would have lowered the ratios for private schools more than those of public schools.

The honor-point ratios used in the computations of the measures reported in the figures and the remaining table of this section are, as in the comparison by sampling, for the first quarter of residence only. Comment has already been ventured on the validity of comparisons of scholarship for such a brief period.

The reader is asked to note that the number of matches indicated in Figure 37 is less than the numbers of students reported to be represented in Tables XVIII and XIX. For example, the numbers of matched groups indicated for the last comparison at the bottom of the figure is 252, notwithstanding the total number of men and women from both Twin-City and non-Twin-City private schools reported in the first table to be represented in the comparisons is 302, and the total number of men and women from both Twin-City and non-Twin-City public schools reported in the second table to be represented is 1,029. The explanation of the discrepancies is in the method of making up the matches: these are not always pairs of individual students, which is the customary procedure followed in studies involving matching. In studies of this kind more than a single case will often appear at a given point in the distribution. For instance, there might be two men in the

Twin-City private group eighteen and one-half years of age with a percentile rank on the college-aptitude test of 54-55, and there might be three such men in the Twin-City public group. It was desired to increase the reliability of the comparison by retaining all these cases without at the same time introducing them as individual cases and thus having different distributions for the two groups of schools being compared. To use different distributions in a comparison would, of course, destroy the validity. The procedure followed was, therefore, to *average the honor-point ratios wherever there were two or more cases at a single point in the distribution and to introduce the average as if it were an individual case in a pair*. The indication of 252 matches in the last comparison of Figure 37 means that the 302 individual cases from private schools were reduced to 252 ratios representing this group of schools. This in turn means that most of the matches on the side of private schools are represented by individual cases and that in a relatively small proportion the representation is by two or more cases. In the same comparison the 1,029 individual cases from public schools were reduced to 252 ratios representing this group. Most of the matches on the side of public schools are represented by two or more cases; representation by a single case is relatively infrequent.

The measures in Figure 37 disclose a consistent and unequivocal superiority of students from public as compared with students from private schools considered as a single group, a superiority that would be even greater than shown if ratios had been at hand also for students whose records were deficient. The last comparison, that for all matches in both groups, already referred to, depicts a conspicuous superiority for the public group as a whole, a superiority borne out in the two comparisons immediately above it, those for all Twin-City and all non-Twin-City students. In a single comparison of those above

these in the figure, that for Twin-City men at the top, the medians for private and public schools are not far apart, and in

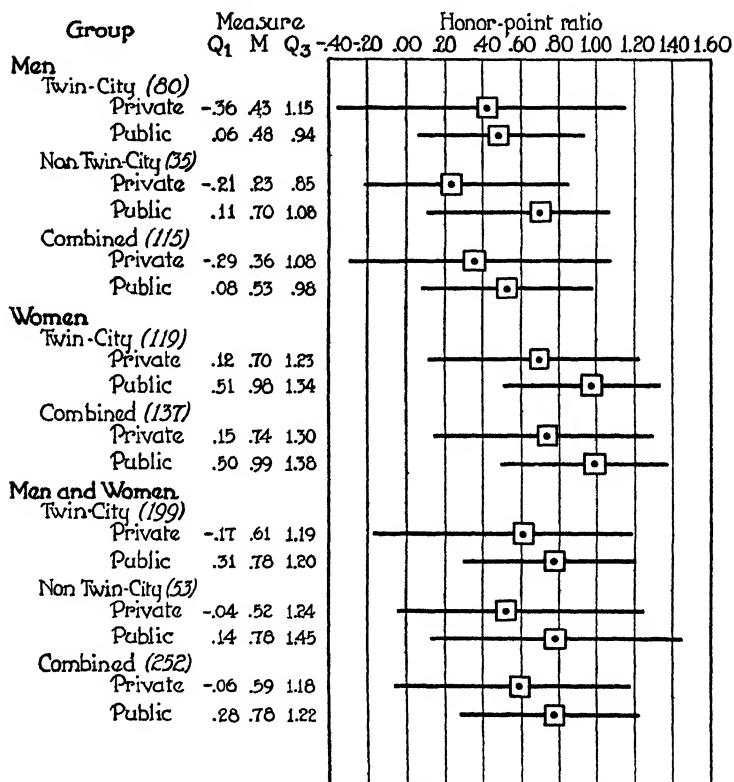


FIG. 37.—Median honor-point ratios and ranges of middle 50 per cent of honor-point ratios for matches of students entering the College of Science, Literature, and the Arts of the University of Minnesota from private and public secondary schools. (The numbers in parentheses indicate the number of matches in the comparisons.)

two instances, one in this particular comparison and the other in the comparison for men from both Twin-City and non-Twin-City schools, the upper quartile is higher for private

than for public schools. On all other measures, including medians and quartiles, the public schools are conspicuously superior.

As with the collations of percentile ranks on the college-aptness test and of honor-point ratios by the method of random sampling, additional comparisons by other groupings are next presented in order to note the influence of these groups on the honor-point measures just reported in Figure 37. Figure 38 presents comparisons of each of the three major groups of private schools (Roman Catholic, Scandinavian, and independent) with matched groups from public schools. These comparisons include men and women from both Twin-City and non-Twin-City schools. From scrutiny of the first three comparisons in this figure we are justified in concluding that *the lower standing of private schools as compared with public schools* (already noted in Figure 37) *is contributed to by all three groups of schools*, although in unequal proportions. Students from Catholic schools account for more of this difference than students from Scandinavian and independent schools. The median for the Scandinavian group is equal to that for the public group and the upper quartile slightly superior, but the first quartile is much lower than the corresponding measure for public schools. The median for independent schools is higher than for public schools, but the first and third quartiles are lower by larger differentials. Judging from the measures shown, the Scandinavian group contributes somewhat more to the unfavorable position of private schools as a whole than does the independent group. The measures reported in the last comparison of Figure 38 are nearly identical with those for all students in the last comparison of the preceding figure. The larger number of matches in this second figure is merely the total of those represented in the comparisons of the three separate groups of schools. For the first figure the matchings were

made for all private schools as a group and in disregard of distinctions among Catholic, Scandinavian, and independent schools. By more often bringing two or more students into the matches the number of these matches would be reduced.

The results of further inquiry into the influence of the several groups on the measures reported in Figure 38 are presented

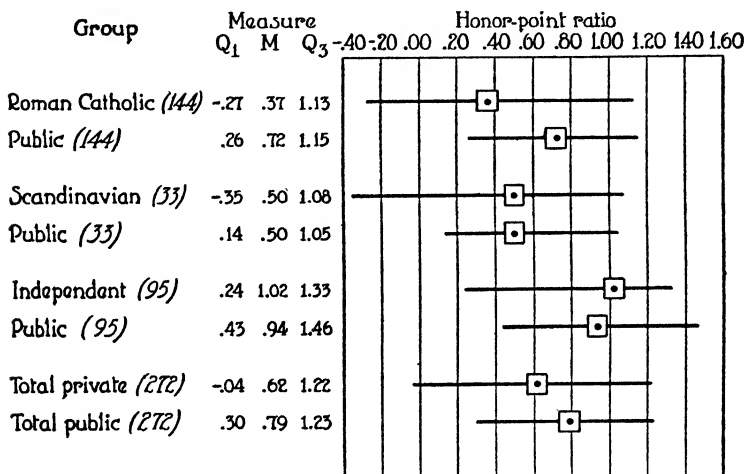


FIG. 38.—Median honor-point ratios and ranges of middle 50 per cent of honor-point ratios for matched groups of students entering the College of Science, Literature, and the Arts of the University of Minnesota from Roman Catholic, Scandinavian, independent, and public secondary schools. (The numbers in parentheses indicate the number of matches in the comparisons.)

in Table XX, which affords comparisons for men and women and for Twin-City and non-Twin-City schools separately. Because many of the groups thus subdivided are small, median ratios only are given, although some of the numbers of matches are large enough to yield reliable quartile ratios. The major tenable inference from this table which adds anything to conclusions already drawn is the contrast in influence of students from independent schools within and without the Twin Cities.

The medians are all appreciably higher than those for public schools within the cities and appreciably lower than for public schools outside the cities. Whatever contribution is made by students from independent schools to the lower record of private

TABLE XX

NUMBERS OF MATCHES AND MEDIAN HONOR-POINT RATIOS OF STUDENTS ENTERING THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS OF THE UNIVERSITY OF MINNESOTA FROM TWIN-CITY AND NON-TWIN-CITY ROMAN CATHOLIC, SCANDINAVIAN, INDEPENDENT, AND PUBLIC SECONDARY SCHOOLS

GROUP	MEN		WOMEN		MEN AND WOMEN	
	Number	Median	Number	Median	Number	Median
Twin-City:						
Roman Catholic	50	25	78	50	128	36
Public	50	49	78	93	128	76
Scandinavian	21	10	11	65	32	40
Public	21	25	11	90	32	47
Independent	13	25	45	110	58	113
Public	13	87	45	102	58	94
Non-Twin-City:						
Roman Catholic	9	25	7	90	16	40
Public	9	10	7	15	16	13
Scandinavian	1	..	..	..	1	....
Independent	26	20	11	130	37	63
Public	26	80	11	150	37	93

schools as shown in Figure 38 is through students from non-Twin-City schools. The higher medians for students from non-Twin-City Catholic schools are computed from such small numbers of matches as to render conclusions from these measures unreliable.

Mention of the unreliability of conclusions from comparisons involving small numbers of students directs attention to the whole question of the significance of the differences found.

Here again, as in the comparison by random sampling, it may be reported that computations by the use of a standard formula¹ showed the differences, where large numbers of matches were concerned, as in Figure 37, to be statistically significant. This could not be as true for some of the differences where the ratios for smaller numbers of students are being compared. As in the earlier comparison, significance must be sought in the consistency of the differences reported. There is enough of consistency to give assurance for such conclusions as are drawn.

OTHER COMPARATIVE STUDIES

Studies previously reported aiming to compare the success in higher institutions of students from private and public secondary schools have been few in number. They may be briefly summarized. Beatley found with regard to students in Harvard, incidentally to a study made for another purpose,² that the men prepared at private schools obtained on the average poorer marks in school and in college than men prepared at public schools, but that on the [comprehensive] examination the two groups were practically equal in attainment. . . . The writer hesitates to attach great significance to this finding because of the differing social and economic forces which influence the men of these groups. There is a tendency, however, for a public-school man to do better work in college than a private-school man who obtains the same comprehensive examination standing.

Reports of the Dean of Harvard College have from time to time considered the relative success of entrants from public and private schools. A quotation from one of the more recent of these reports may be taken as illustrative. It will be seen to corroborate the conclusions from Beatley's investigation:³

¹ See p. 120.

² Bancroft Beatley, "The Relative Standing of Students in Secondary School, on Comprehensive Examinations, and in College," *School Review*, XXX (February, 1922), 141-47.

³ Reports of the President and Treasurer of Harvard College, 1926-27. *Official Register of Harvard University*, XXV, No. 8 (Cambridge, Massachusetts, March 9, 1928), 88.

The margin of superiority of the Freshmen from the public schools over the students from the private schools remains very much the same as pointed out in previous reports. There were almost twice as many public-school Freshmen on the Dean's List [a list of students of superior scholarship] as there were men from the private schools. The proportion of unsatisfactory final records among the private-school group increased from 22.4 per cent to 27.4 per cent, while the public-school men have a gain with only 11.2 per cent unsatisfactory against 13.8 per cent in 1925-26. This makes the gap between the two groups far wider in this respect than last year. The reason for this divergence is to be found largely in the fact that from the public schools we get only the best, while the private schools send to us the general run of their students. To this we should add the fact that the Freshmen from many of the smaller private schools have been subject to rather careful supervision and, therefore, find it more difficult to adjust themselves to a new environment in which the student is placed largely on his own responsibility. Finally, it is a well known fact that the men from the private schools engage more extensively in outside activities than do most of those from the public schools, which is oftentimes, although not always, reflected in the grades obtained.

Potter, in an article in which he began by quoting data showing that in both Harvard and Yale the graduates of public high schools were superior in scholarship to the graduates of private schools, reported a study made concerning the scholarship of high-school and academy graduates who had later attended the University of Chicago, from which he concluded "that as an agency preparing for college the high school is far superior to the academy."¹

More recently (1922-23) the superiority of the public high schools in the list of secondary schools accredited by the Association of Colleges and Secondary Schools of the Southern States was shown in the fact that graduates of private secondary schools failed in 15.5 per cent of courses taken in the first college year, and graduates of public secondary schools failed

¹ George M. Potter, "Relative Efficiency of Public and Private Secondary Institutions," *School Review*, XXI (October, 1913), 523-37.

in 10.9 per cent. For the school year 1921-22 the corresponding percentages were 17.0 and 11.9.¹

The last comparative study to which we may give brief attention is one made by Mrs. Blakeslee concerning students entering Mount Holyoke College.² In this study students were classified into three groups, (1) those from public high schools; (2) those from private schools; and (3) those who had attended both public and private schools. Conclusion from the findings may be made in the author's own words, although the quotation is too brief to disclose all significant inferences.³

In no phase of college achievement are the public school students superior to the private school students. The only significant differences between these two groups lie in their averages in English in which the private school students are superior, and in the fact that the public school entrants are younger than the private school entrants. The public school students are also appreciably younger than the combination group, and in four phases of college achievement they surpass those students who received their preparation at a combination of public and private schools.

We may judge, therefore, that students from the two main groups of schools with which we have been concerned are in college achievement approximately on a parity, although in age those from public schools are somewhat younger.

The conclusions from all but the last of these studies and of the study which it has been almost the sole concern of the present chapter to report are in general accord, that graduates of private schools as a group tend not to do as well as graduates of public schools in the higher institutions in which they con-

¹ Report of the Committee on Deans' Reports for 1922-23. Reprinted from the *Proceedings of the Association of Colleges and Secondary Schools of the Southern States* (1924), p. 37.

² Catherine Sanderson Blakeslee, "A Comparative Study of the College Achievement of Public, Private, and Public- and Private-School Entrants." Master's dissertation, Department of Education, University of Chicago, 1929.

³ *Ibid.*, pp. 66-67.

tinue their education. Our investigation, however, makes clear that it does not suffice to draw a single sweeping conclusion for all types of schools on private foundations, but that schools of different types should be investigated separately, especially as there is wide variation from type to type of success measured in this way. The present study found at least one group of private schools in one type of locality with a superior record even after students were matched by sex, college aptitude, and age. The collation of investigations also prompts the conviction that comparison of schools and students as to the success of their graduates in colleges and universities is after all a complex task, and not a matter that may be left to offhand judgment or even the computation of averages if a number of influential factors are not controlled before computing them.

A RÉSUMÉ OF THE COMPARISONS

The foregoing sections of the chapter have been given over largely to three major comparisons, not including the comparison of students from private and public schools with respect to age. The first of these, a comparison of what is referred to as "college aptitude," was introduced to assist in interpreting the two others, which are comparisons of scholarship. The first of the comparisons of scholarship was of all students from private schools with a random sampling of students from public schools entering the College of Science, Literature, and the Arts, the largest unit in the University of Minnesota. The second was by the matching method, in which, before the measures of scholarship used in the comparison were calculated, students from the two groups were matched by sex, percentile rank on the college-aptitude test, age, and location of schools within and without the Twin Cities.

1. The comparison on college aptitude finds the two groups to be much alike, but with appreciable superiority for the

private group. In other comparisons of this type, that is, comparisons which do not distinguish Catholic, Scandinavian, and independent schools, the advantage oscillates somewhat irregularly between these main groups. For example, men from Twin-City public schools are found to be superior to men from Twin-City private schools, while men from non-Twin-City private schools are superior to men from non-Twin-City public schools. Contrariwise, women from Twin-City private schools are superior to women from Twin-City public schools, while women from non-Twin-City public schools are superior to women from non-Twin-City private schools. These differences of tendency for Twin-City and non-Twin-City students of each sex counteract each other when the data for Twin-City and non-Twin-City groups are merged. The resulting sets of measures for all men from private and from public schools are as nearly alike as are the sets of measures for all students regardless of sex. The same thing is true for the sets of measures for women.

The three groups of private schools, namely, Catholic, Scandinavian, and independent, contribute very unequally to this near-equivalence of students from private and public schools. From Twin-City schools students from Catholic schools are nearest on a par with those from public schools, while those from Scandinavian schools and from independent schools, respectively, tend to be below and above those from public schools. A language handicap may explain the lower measures for students from Scandinavian schools. The measures for non-Twin-City students, from which the Scandinavian group drops out because of small numbers, do not reflect the same tendencies as those found for Twin-City schools; the superiority of the private groups is more unquestionable.

2. Contrary to expectations from the evidence on college aptitude, the measures of scholarship for the same students

show the public groups to be almost consistently superior to the private groups. This is true for composite measures for the three groups of private schools—Catholic, Scandinavian, and independent—treated as a single group. The order of honor-point ratios for students from Twin-City schools in these three groups from lowest to highest is the order of listing. The median for public schools lies between the second and third in order. In non-Twin-City comparisons the public schools are again consistently, even if not notably, superior.

The proportions of students for whom honor-point ratios could not be calculated owing to deficient records for the first quarter of attendance were larger for private than for public schools. If it had been possible to compute and introduce these ratios, it is almost certain that the differences in favor of students from public schools would have been even larger than as reported.

3. As is to be anticipated from the evidence on the first two comparisons, when students are matched by sex, college aptitude, and age, the measures for students from public schools are with only minor exceptions strikingly superior to those for students from all private schools combined. When comparisons are made for Catholic, Scandinavian, and independent schools, separately, Twin-City and non-Twin-City combined, all three groups are judged to contribute to the difference, but Scandinavian and independent schools less than Catholic schools. When comparisons (of medians only because of attenuated numbers) are made separately for Twin-City and non-Twin-City schools in these three groups, the only group for which there were reasonably large numbers of students for which the measures are found superior to those for the public schools are the Twin-City independent schools. The differences in this particular comparison are not great enough, however, to discredit the assertion that the rather striking

superiority for the independent group disclosed by the comparisons by the method of random sampling is largely owing to the superior ability on the test of college aptitude.

Before leaving the findings of these comparisons we may well *admonish against ascribing to individual schools of any group the record made by students from all schools of the group*. Schools within all groups, private and public, were found to vary widely enough to justify the statement that within groups with the poorest record are individual schools with measures which are high when compared with the records for all schools in all groups. On the other hand, within the groups of schools for which high measures are reported are individual schools with records among the lowest for all private and public schools. These measures for individual schools have not been reported, even for illustration, because there were very few individual schools sending students to the University in sufficient numbers to yield even moderately reliable measures. We may reaffirm that the measures reported are presented as measures for groups of schools and not for individual schools within the groups.

Conjecture as to the factors that account for the differences found by this method of matched comparisons is in place here. One's first thought is of differences in the efficiency of instruction within the secondary schools from which these students come. Doubtless this factor is one, but it is only one, although almost certainly important. It is impossible to weave a perfect fabric of all possible factors, but a few others may be suggested. It has been shown that large proportions of students in Scandinavian schools have foreign-born fathers and come from homes in which a foreign language is ordinarily spoken, or where a foreign language and English vie with each other for precedence. The success of students from this group of schools is probably hindered by a language handicap that persists even

when students have been matched on a college-aptitude test. Other studies have disclosed a persistent effect of this kind. This may also influence the record of students from Catholic schools, but, judging from the relatively smaller proportion of such students in this group as shown in chapter ii, who come from such homes, it could not be equally pervasive. Then, too, this factor would be fully as operative for the public schools as for Catholic schools, if not more so. It must be less influential for independent schools than for public schools. Perhaps the most potent factor of all is that composite of influences which is often referred to as the "adjustment" or "readjustment" required in shifting from one institution to another, in this instance from a secondary school to a complex higher institution. Among differing elements in the several groups of secondary schools would be the nature of control and discipline, the complexity of the school situation as to numbers of teachers and students, the size of classes, and the state of development of extra-curricular program. To those who are conversant with these conditions in schools of the four groups, it will not require further demonstration to convince that, in the elements of the situation that have been named, the students from public high schools have the advantage in the extent of similarity with the university environment, and therefore in the extent of readjustment required.

The mention in the foregoing paragraph of the influence of the language factor suggests that there are other significant relationships between the evidence of the present chapter and that of chapters ii and iii. As a matter of fact, as the reader will have noted, there is a good deal of intercorrelation between these chapters, as well as assistance in interpreting the evidence of a given chapter by that in other contributing chapters.

CHAPTER V

THE CURRICULUM

SCOPE AND NATURE OF THE COMPARISONS

Probably no one will deny the importance of the curriculum in any comparison of private and public secondary schools. This is because we rather confidently expect that differences in the services or working functions of the several types of schools will be reflected in an analysis of the offerings planned for the students enrolled.

The sense in which the much-abused word "curriculum" is used at this point is the rather generic one in which it is often applied. It refers to the arrangement of the offering in the schools. Specifically, the chapter deals with (1) the types of organization of the offering or types of "*programs of studies*"; (2) the numbers and kinds of "courses of study," or more properly, *curricula* (in a more restricted sense) listed; (3) the *constants*, or subjects required of all students; and (4) the *total amount*, in units, of the offering made available and its distribution by subject-groups. Near the end of the chapter are presented also (5) *proportions of students enrolled* in certain subject-groups.

As in other chapters of the book, the basic comparison is of private and public schools in Minnesota—schools of equivalent enrolments. The evidence drawn upon for this purpose is that presented by Mackenzie.¹ A second source of evidence used because it shows the situation for public high schools in the

¹ Gordon N. Mackenzie, "Programs of Studies and Training of Teachers in Private and Public Secondary Schools of Minnesota." Master's thesis on file in the office of the Graduate School, University of Minnesota, 1929.

country as a whole is the report of a study by Bradley.¹ At several points it is found illuminating to bring in the findings of other studies, such as one by Cole, of private schools for boys,² another reported as an article evaluative of private secondary education by Boyce,³ and computations from certain data

TABLE XXI

NUMBERS AND PERCENTAGES OF PRIVATE AND PUBLIC SECONDARY SCHOOLS
IN EACH GROUP CLASSIFIED ACCORDING TO ENROLMENT
AND AVERAGE ENROLMENT IN EACH GROUP

GROUP AND ENROLMENT OF SCHOOLS	PRIVATE			PUBLIC		
	Number	Percentage	Average Enrolment	Number	Percentage	Average Enrolment
I (less than 50)	6	11 8	40 0	12	11 0	39 2
II (50 to 99)	19	37 3	74 3	44	40 4	68 5
III (100 to 149)	12	23 5	118 9	17	15 6	122 1
IV (150 to 199)	4	7 8	169 5	11	10 1	171 9
V (200 and over)	10	19 6	339 5	25	22 9	301 9
All	51	100 0	140 2	109	100.0	137 6

made available by the Office of Education in the Department of the Interior in Washington, D.C.

Evidence on the size of the schools represented in Mackenzie's comparison for Minnesota is provided by Table XXI. Almost identical evidence concerning the private schools was reported in chapter i, but it is reproduced here in order to indicate the comparability as measured by enrolments of the public high schools represented. The aim was to secure a sampling

¹ Raymond J. Bradley, "A Study of the Programs of Studies in Use in American High Schools." Doctor's thesis on file in the office of the Graduate School, University of Minnesota, 1929.

² Robert D. Cole, "Private Secondary Education for Boys in the United States," pp. 353. Philadelphia: Westbrook Publishing Co., 1928.

³ George A. Boyce, "Is the Private School Fulfilling Its Function?" *School Review*, XXXVII (May, 1929), 347-62.

of public schools on a parity in this respect with the private schools. This parity is assured by the almost similar percentage distributions of private and public schools to the different enrolment groups and the approximate equivalence of the average enrolments of private and public schools in each group and in all groups combined. The table does not report the median enrolments for all schools, which were 100.0 and 90.0, respectively, in private and public schools. The interquartile ranges of 68 to 160 and 61 to 181, respectively, likewise argue comparability with respect to enrolment.

The grouping of high schools followed by Bradley is by the population of the city of location and not by the enrolment of the schools. This is a more indirect and variable measure of the size of the high school than is the enrolment figure. There were three groups of high schools in his classification, those in cities of 1,000 to 2,499 (Group I), 2,500 to 19,999 (Group II), and 20,000 and over (Group III). The 433 high schools in all sections of the country represented in his investigation were distributed as follows: 160 in Group I, 152 in Group II, and 121 in Group III.¹ It is impossible to state with precision the numbers of students there would be in such high schools. According to measures computed for cities of different populations in North Central territory in 1921-22, one might expect that high schools at that time would have enrolled not far from 8 per cent of the population in cities of Group I, not far from 4 per cent in the cities of Group II, and somewhat smaller percentages in Group III.² The percentages would without question be larger for 1924-25, the year to which the enrolments in Bradley's study apply. This would mean that actual enrolments in the high schools represented in Bradley's study would

¹ *Op. cit.*, p. 23.

² Leonard V. Koos, *The Junior College*, p. 583. Research Publications of the University of Minnesota, 1924.

be for the most part at the higher end of or beyond the distribution in Mackenzie's study. This is to say that Bradley's data pertain to typically much larger schools than do those of Mackenzie—a fact worth keeping in mind in the interpretations below. There is, of course, a certain fairness in comparing these private schools with larger public schools, because, after all, the largest private schools in the state are represented, whereas to include only small public schools would not be adequately representative.

TYPES OF PROGRAMS OF STUDIES

Before reporting the proportions of schools administering the different types of programs of studies there should be a clear understanding of the characteristics of each type. This may most easily be accomplished by presenting illustrations, all but one those selected by Bradley from among programs he analyzed.¹ The example of the *single-curriculum type* of program of studies was one reported by a small southern school:

First Year

Composition and rhetoric, 1 unit
General science, 1 unit
Commercial arithmetic, 1 unit
Commercial geography, 1 unit

Third Year

Literature, 1 unit
Plane geometry, 1 unit
French, 1 unit
General history, 1 unit

Second Year

Composition and rhetoric, 1 unit
Elementary algebra, 1 unit
Biology, 1 unit
Civics, 1 unit

Fourth Year

Literature, 1 unit
Advanced algebra, $\frac{1}{2}$ unit
Chemistry, 1 unit
French, 1 unit
American history, $\frac{1}{2}$ unit

The essential characteristic of this type is that the entire offering is prescribed and required for graduation. It is seldom offered in any but the smallest schools that can not list an offering in excess of 16 units.

¹ *Op. cit.*, pp. 23-27.

The *multiple-curriculum type* is illustrated by the arrangement of the offering in a community of 2,000 population, again in the South:

LANGUAGE CURRICULUM	SCIENCE CURRICULUM
<i>First Year</i>	
Composition and rhetoric, 1 unit	Composition and rhetoric, 1 unit
Elementary algebra, 1 unit	Elementary algebra, 1 unit
Latin, 1 unit	Physical geography, $\frac{1}{2}$ unit
Ancient history, 1 unit	Physiology, $\frac{1}{2}$ unit
	Ancient history, 1 unit
<i>Second Year</i>	
Composition and rhetoric, 1 unit	Composition and rhetoric, 1 unit
Elementary algebra, $\frac{1}{2}$ unit	Elementary algebra, $\frac{1}{2}$ unit
Advanced algebra, $\frac{1}{2}$ unit	Advanced algebra, $\frac{1}{2}$ unit
Latin, 1 unit	Biology, 1 unit
Modern history, 1 unit	Modern history, 1 unit
<i>Third Year</i>	
American literature, 1 unit	American literature, 1 unit
Plane geometry, 1 unit	Plane geometry, 1 unit
Spanish, 1 unit	Zoölogy, 1 unit
American history, 1 unit	American history, 1 unit
<i>Fourth Year</i>	
English literature, 1 unit	English literature, 1 unit
Solid geometry, $\frac{1}{2}$ unit	Solid geometry, $\frac{1}{2}$ unit
Spanish, 1 unit	Physics, 1 unit
Economics, $\frac{1}{2}$ unit	Economics, $\frac{1}{2}$ unit

This is a simple example of the type in which the students would choose one of the two curricula offered but would have no choice of work within the curriculum selected. More than two curricula are sometimes offered. The present writer has been accustomed to designate this type as "pure" multiple-curriculum, the qualifying adjective being used to indicate the lack of option once a curriculum has been chosen. This

will hereafter be referred to as the pure multiple-curriculum type.

The *constants-with-variables type* is one in which certain courses are prescribed for all students, the remainder of the work being selected from a list of additional courses. The arrangement in the first two years for one such program of studies in a northern community of about 3,000 population was as follows:

REQUIRED COURSES	ELECTIVE COURSES
	<i>First Year</i>
English, 1 unit	General science, 1 unit
Elementary algebra, 1 unit	Latin I, 1 unit
	French I, 1 unit
	Field crops, 1 unit
	Ancient and medieval history, 1 unit
	Manual training, 1 unit
	Domestic science, 1 unit
	Chorus, $\frac{1}{2}$ unit
	Orchestra, $\frac{1}{4}$ unit
	Glee club, $\frac{1}{4}$ unit
	<i>Second Year</i>
English, 1 unit	General science, 1 unit
Plane geometry, 1 unit	Latin I or II, 1 unit
	French I or II, 1 unit
	Biology, 1 unit
	Modern history, 1 unit
	Bookkeeping, 1 unit
	Animal husbandry, 1 unit
	Mechanical drawing, 1 unit
	Manual training II, 1 unit
	Domestic science II, 1 unit

The arrangement in third and fourth years was similar, the lists of prescribed and elective courses only being somewhat different. The lists of elective courses, at least in small high schools, are typically shorter than in the illustration.

The *combination-curriculum type* of organization, hereafter to be designated as the combination type, is a hybrid of the two types last illustrated, its characteristics being drawn from both.

<i>First Year</i>	<i>Second Year</i>
<i>English</i> , 1 unit	<i>English</i> , 1 unit
<i>General science</i> , 1 unit	<i>Modern history</i> , 1 unit
<i>Commercial arithmetic</i> , $\frac{1}{2}$ unit	<i>Bookkeeping and office practice</i> , 1 unit
<i>Bookkeeping</i> , $\frac{1}{2}$ unit	<i>Modern history</i> , 1 unit
<i>Physical training</i>	<i>Physical training</i>
Ancient and medieval history, 1 unit	<i>Stenography and typewriting</i> , 1 unit
French, 1 unit	French, 1 unit
Spanish, 1 unit	Spanish, 1 unit
Algebra, 1 unit	Plane geometry, 1 unit
	Biology, 1 unit
<i>Third Year</i>	<i>Fourth Year</i>
<i>English</i> , 1 unit	<i>English</i> , 1 unit
<i>American history</i> , 1 unit	<i>Civics</i> , $\frac{1}{2}$ unit
<i>Bookkeeping and office practice</i> , 1 unit	<i>Social problems</i> , $\frac{1}{2}$ unit
<i>Physical training</i>	<i>Economics</i> , $\frac{1}{2}$ unit
<i>Stenography and typewriting</i> , 1 unit	<i>Stenography and typewriting</i> , 1 unit
French, 1 unit	French, 1 unit
Spanish, 1 unit	Spanish, 1 unit
Chemistry, 1 unit	Physics, 1 unit

It provides for two or more curricula as does the pure multiple-curriculum type, and at the same time allows for election of a part of the work during one or more of the four years. As Bradley does not illustrate the type, it is illustrated by presenting above a general business curriculum, primarily for boys, which is one of eight curricula made available in a high school situated in an eastern state, the seven other curricula being

designated as follows: classical, technical preparatory, normal preparatory, general, trade, home economics, and stenographic, the last two being primarily for girls. Most of these other curricula are similar in that they prescribe a large part of the work, the remainder being elective from a list of subjects provided. The exception is the "general" curriculum, which is more largely elective.

TABLE XXII

DISTRIBUTION OF PROGRAMS OF STUDIES BY TYPES IN PRIVATE AND PUBLIC HIGH SCHOOLS OF MINNESOTA (AFTER MACKENZIE) AND IN PUBLIC HIGH SCHOOLS OF THE UNITED STATES (AFTER BRADLEY)

GROUP OF SCHOOLS	SINGLE CURRICULUM		PURE MULTIPLE CURRICULUM		CONSTANTS WITH VARIABLES		COMBINATION		TOTAL	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Minnesota:										
Private			1	2 0	31	62 0	18	36 0	50	100 0
Public	12	11 0			80	73 4	17	15 6	109	100 0
United States:										
Public, Group I	3	1 9	1	0 6	81	50 6	75	46 8	160	99 0
Public, Group II			3	1 3	42	27 6	108	71 0	152	99 0
Public, Group III			1	0 8	31	24 0	97	75 2	129	100 0

The proportions of private and public schools in Minnesota and of public schools in the country as a whole providing the different types of programs of studies are shown in Table XXII. In interpreting the percentages for the schools in Minnesota it is essential to recall that the selection of public schools was made in such a way as to assure comparability by size of enrolment with private schools. Although no private school was found to have the single-curriculum type, the most restricted of the four types of programs of studies, some of the public schools provided such an offering. A single private school was found with the pure multiple-curriculum type. Predominantly, however, both private and public schools pro-

vided the constants-with-variables type, although the proportion was larger for public than for private schools. Correspondingly, the proportions of private schools with combination types was larger than for public schools.

In general one may assume that the constants-with-variables type of program of studies is more often used than the combination type where the total amount of the offering is smaller, although this need not be so. Chiefly, however, the reason for the larger proportion of public schools with this type is its recommendation by the State Department of Education in Minnesota, especially for small schools.¹ The influence of the extent of the total offering may be evaluated by the reader from evidence presented at a later point in the chapter.

The programs of studies in high schools of the country (see lower part of Table XXII) generally, certainly those in communities of the sizes represented, show almost negligible proportions with the first two types. In Group I, high schools in communities of 1,000 to 2,500, a full half have constants-with-variables programs, with almost all the remaining half providing combination programs. In the high schools of Groups II and III, combination programs easily predominate, constants-with-variables programs appearing in only approximately a fourth of these two groups of larger schools.

NUMBERS AND KINDS OF CURRICULA PROVIDED

Although the dominant type of programs provided in both private and public schools in Minnesota is the constants-with-variables, there are enough of the combination type to make some special study of them profitable. Two lines of inquiry will be found illuminating, the first relating to the number of different curricula listed, and the second relating to the kinds

¹ *The High-School Curriculum and Syllabic of High School Subjects*. Bulletin No. 1, State of Minnesota, Department of Education, St. Paul, June, 1925. Pp. 21-31.

of curricula. When the numbers of different curricula were counted it was found that the average for the private schools in Minnesota was 3.4 curricula per school for schools with combination programs. For the group of public schools in Minnesota comparable in size the average was 3.1, an average slightly smaller than for private schools.¹ Averages for the three groups of public schools in the United States included in Bradley's investigation were 3.3 for Group I, 4.6 for Group II, and 6.9 for Group III.² When schools of comparable size are included in the comparison, private and public schools are found to afford almost equivalent opportunities for curriculum differentiation, but when the larger public schools are introduced into the comparison, the result is unfavorable to private schools.

For the second line of inquiry the curricula were classified as college-preparatory, general, and practical-arts or other. A great variety of names are given to curricula grouped under these headings. For example, under "college-preparatory" were included those bearing the particular designation and such names as "classical," "academic," "engineering preparatory," etc. Under "general" were included only a small proportion not bearing this particular name. Under "practical-arts and other" were included all commercial, agricultural, industrial-arts, home-economics, music, fine-art, and religious-training.³ It would be far from correct to assume that curricula in the second and third groups always disregard requirements for entrance to college. At the same time their apparent purpose is chiefly to serve non-college-going rather than college-going students. Therefore, that group of schools which has the largest proportion of curricula in the second group, but more

¹ Mackenzie, *op. cit.*, p. 44.

² Bradley, *op. cit.*, p. 31.

³ A few of these were offered in private schools only.

especially in the third, may be understood to be making most effort for students who can not or should not continue their education on the collegiate level.

With this interpretation the evidence of Table XXIII and Figure 39 indicates that public high schools are doing more for the non-college-going student. This is seen in the comparison for Minnesota, which includes schools of comparable size.

TABLE XXIII

NUMBERS AND PERCENTAGES OF COLLEGE-PREPARATORY, GENERAL, AND PRACTICAL-ARTS AND OTHER CURRICULA OFFERED IN PRIVATE AND PUBLIC SECONDARY SCHOOLS IN MINNESOTA (AFTER MACKENZIE) AND IN PUBLIC HIGH SCHOOLS IN THE UNITED STATES (AFTER BRADLEY)

GROUP OF SCHOOLS	COLLEGE-PREPARATORY		GENERAL		PRACTICAL-ARTS AND OTHER		TOTALS	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Minnesota:								
Private (18)*....	32	52 5	10	16 4	19†	31 1	61	100 0
Public (17)...	19	36 5	9	17 3	24	46 2	52‡	100 0
United States:								
Public (280) . .	514	37 8	164	12 1	679	50 0	1357	99 9

* Number of schools with two or more curricula.

† Four in religious training

‡ One curriculum without name excluded in computations.

Public high schools of the country generally are seen to list an even larger proportion of curricula in the third group than do the public high schools of Minnesota, but this difference is owing to the greater proportion of larger high schools represented. If the larger high schools of Minnesota were represented, they would in this respect be likely to be at least on a par with the public high schools of the country as a whole. The percentages of practical-arts and other curricula for the three separate groups in Bradley's study—percentages not reported in the table and figure—are 45.9 for Group I, 47.3 for Group II,

53.9 for Group III.¹ These percentages indicate the approximate equivalence in this respect of the public high-school situation in Minnesota with that in the country as a whole.

WORK REQUIRED OF ALL STUDENTS

One of the most illuminating and significant of the comparisons that can be made in curriculum relationships is in the

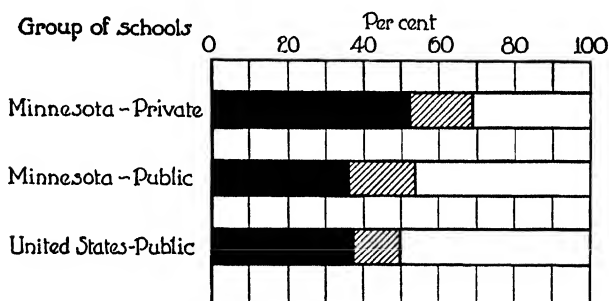


FIG. 39.—Percentages of college-preparatory, general, and practical-arts and other curricula offered in private and public secondary schools in Minnesota and in public high schools in the United States (black, college-preparatory; shaded, general; in outline, practical-arts and other).

field of constant work, that is, work required of all students. This is not true of the *amount* of constant work as much as of the *subject-groups and courses* in which the prescriptions are made. As to the amount of these constant prescriptions, it may be said that as between the private and public schools of Minnesota it did not differ widely: for all private schools it averaged 9.2 units and for all public schools represented it averaged 10.9 units.² Nor did it vary widely from one type of private school to another, the averages for the three groups being 9.6 units for the Roman Catholic, 8.1 units for the

¹ Computed from data presented in Bradley, *op. cit.*, p. 37.

² Mackenzie, *op. cit.*, p. 57.

Scandinavian, 8.8 units for the independent.¹ Bradley found an average of 9.8 units in those of his public high schools of Group I (those most nearly comparable in size with the Minnesota schools represented) in which constants-with-variables programs of studies were provided, and an average of 7.32

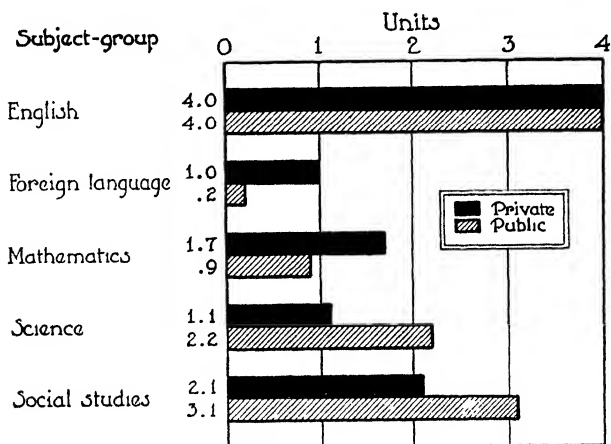


FIG. 40.—Average numbers of units in each of five academic subject-groups required of all students in private and public secondary schools in Minnesota (after Mackenzie).

units in schools of the same group in which the combination programs were provided. The larger schools of Groups II and III prescribed somewhat smaller amounts of constant work.²

As has just been indicated, when attention is directed to the subject-groups and courses which are made constant requirements, remarkable differences emerge. One of the methods of comparison used by Mackenzie was the computation of the average numbers of units required in certain subject-groups, as shown in Figure 40.³ Constant prescriptions in English are

¹ *Ibid.*, p. 60.

² Bradley, *op. cit.*, pp. 48 and 51.

³ Mackenzie, *op. cit.*, p. 84.

equal in amount, but in foreign language and mathematics they are larger in private schools, while in science and the social studies they are larger in public schools. There are differences also in non-academic subject-groups, but these are not as notable.

When these prescriptions are studied separately for Catholic, Scandinavian, and independent schools, practices in fields other than English are found to be far from uniform. When the averages of Table XXIV are compared with those of Figure

TABLE XXIV
AVERAGE NUMBERS OF UNITS IN EACH OF FOUR ACADEMIC
SUBJECT-GROUPS REQUIRED OF ALL STUDENTS IN ROMAN
CATHOLIC, SCANDINAVIAN, AND INDEPENDENT SECONDARY
SCHOOLS IN MINNESOTA (AFTER MACKENZIE)

Subject-group	Roman Catholic	Scandinavian	Independent
Foreign language ..	0 8	0 9	1 8
Mathematics .	1 6	1 7	1 9
Science .	1 2	1 0	0 5
Social studies .	2 5	1 4	0 8

40, Catholic schools, although not quite like public schools in their prescriptions, are found to be nearest like them of the three private groups. Scandinavian schools are next in order. Most unlike the public schools in these respects are the independent schools, requiring as they do more in the way of foreign language and mathematics and less of science and the social subjects. This is in harmony with the college-preparatory function which these schools have at other points in this book been found to stress.

That this difference is not peculiar to the schools of Minnesota may be shown by reference to a comparison made by Cole of the percentages of constants required of all students in public high schools of 15 cities (percentages based on data reported

by Counts) and in 34 private schools. The percentages are reproduced in parallel columns in Table XXV. The proportionate emphasis on English is almost equal in these schools, paralleling the situation in the Minnesota schools. As in the Minnesota comparison, also, the private schools emphasize foreign language and mathematics much more and natural science and social science less than the public schools. Other

TABLE XXV
PERCENTAGES OF CONSTANTS REQUIRED OF ALL STUDENTS IN
THE PUBLIC HIGH SCHOOLS OF FIFTEEN CITIES
AND IN THIRTY-FOUR PRIVATE SCHOOLS*

Subject-group	Private	Public
English . .	38 6	42 5
Foreign languages .	10 6	0 0
Mathematics . . .	19 4	7 8
Natural science . .	2 3	7 8
Social science	11 7	16 0
Religion and Bible	6 6	0 0
Industrial arts .	0 1	0 9
Music	1 1	2 2
Arts	0 2	1 4
Physical education .	2 1	21 4
Miscellaneous	7 3	
All	100 0	100 0

* Adapted from Robert D. Cole, *Private Secondary Education for Boys in the United States*, pp. 102-4. Westbrook Publishing Company, 1928

differences in subjects unrepresented in Figure 40 are in religion and Bible, which is sometimes required in private schools but never in public schools; a much larger proportion of physical education in public schools than in private schools; and smaller differences in favor of public schools in industrial arts, music, and art.

The last comparison of constant prescriptions of all students relates to specific subjects and courses in the private and public schools of Minnesota. From a long list of 61 subjects and courses in Mackenzie's materials there were selected for Table

XXVI the 18 which were required of all students in at least 10 per cent of either the private schools or the public schools. There are larger percentages of private schools than of public schools requiring Latin, elementary algebra, plane geometry, ancient history, civics, religion, and physical training. There

TABLE XXVI
PERCENTAGES OF PRIVATE AND PUBLIC SECONDARY SCHOOLS
REQUIRING CERTAIN SUBJECTS AND
COURSES OF ALL STUDENTS*

Subject or course	Private	Public
English	100 0	100 0
Latin	26 0	9 2
Elementary algebra	80 0	54 0
Plane geometry	68 0	36 6
General science	30 0	95 4
Biology	26 0	87.2
Chemistry.	16 0	17 4
Physics...	10 0	15 6
Ancient history	26 0	19 3
Modern history	34 0	87 6
American history	62 0	98 2
Civics	20 0	3 1
Social science	22 0	67 9
Social problems	4 0	11 0
Religion	22 0	
Business training		21 1
Home economics		12 8
Physical training	26 0	15 6

* Adapted from Mackenzie, "Programs of Studies and Training of Teachers in Private and Public Secondary Schools of Minnesota," pp. 86-87a

are larger percentages of public than of private schools requiring general science, biology, chemistry (a small difference), physics, modern history, American history, social science, social problems, business training, and home economics. In general, even if not universally, the differences point to more conservative curriculum policies in private than in public schools. Some of the differences have been accentuated by the recommendation of the State Department of Education that certain subjects be made constants. These sub-

jects, other than English, are general science, biology, modern history, American history, and (introduction to) social science. Religion would have been reported by larger proportions of private schools and physical training by larger proportions of public schools if it were a more common practice to allow

TABLE XXVII
AVERAGE NUMBERS OF UNITS IN TOTAL OFFERING
OF PRIVATE AND PUBLIC SECONDARY SCHOOLS
IN MINNESOTA* AND OF PUBLIC HIGH SCHOOLS
OF THE UNITED STATES†

Group of Schools	Average Number of Units
Minnesota:	
Private..	24 8
Public	21 5
United States:	
Constants-with-variables:	
Group I.....	23 8
Group II .	32 9
Group III . . .	54 9
Combination:	
Group I	29 7
Group II.	39 2
Group III.	53 7

* Mackenzie, "Programs of Studies and Training of Teachers in Private and Public Secondary Schools of Minnesota," p. 120

† Bradley, "A Study of the Programs of Studies in Use in American High Schools," p. 75

credit for them. No one who reads at all widely in the field will question the statement that religion looms large in the minds of the advocates of denominational education. With them religion is often the first subject listed.

THE TOTAL OFFERING AND THE OFFERING IN CERTAIN SUBJECT-GROUPS

The extent of the total offering in average numbers of units is shown in Table XXVII. For the private and public schools of Minnesota the averages were 24.8 and 21.5 units, respec-

tively. In view of the fact that the minimum offering in a four-year school must be 16 units, the private schools have some advantage when compared with public schools of the same enrolment. That the total offering in public schools of larger enrolments in Minnesota is greater may be inferred from the evidence concerning high schools in the country generally drawn from Bradley and presented in the same table. Bradley found it expedient to compute these averages separately for schools with constants-with-variables and with combination programs of studies. In schools with constants-with-variables programs and presumably not far from the same average size as the selection of public high schools in Minnesota (that is, Group I), the average extent of the offering lies between that for private and public schools of Minnesota. In schools of the same size with combination programs the total offering is somewhat larger (leading incidentally to the implication supported by earlier evidence in the chapter, that schools with larger offerings prefer the combination type of program of studies). In the larger schools (of Groups II and III) with either type of program the total offering is even more extensive.

Mackenzie undertook among his comparisons one involving a computation of the amounts and proportions of the total offering comprehended by certain subject-groups. In this comparison it was possible to take into account all subjects for which credit toward graduation was typically granted, but it was not possible to include subjects like music, physical training, and religion, which are sometimes prescribed but for which credit toward graduation is often not calculated in units. The subject-groups on which calculations were possible are listed in Figure 41, which shows also the percentages of the offerings in them. The total offering in private schools is seen to have been made up much more largely than in public schools of foreign language. That in public schools is made up more largely

of science, the social studies, and of the three "practical" fields—industrial arts, agriculture, and household arts. Addition of the percentages for the three fields last named will help

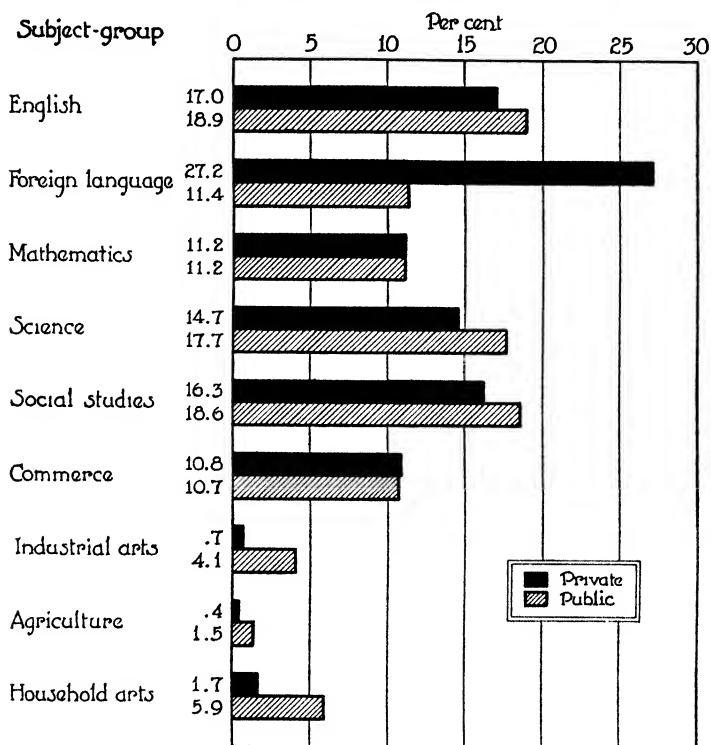


FIG. 41.—Percentages which offerings in each of certain subject-groups are of the total offering in these subject-groups in private and public secondary schools of Minnesota (Mackenzie, "Programs of Studies and Training of Teachers in Private and Public Secondary Schools of Minnesota," p. 164).

to call attention to the marked difference between private and public schools with respect to them. For English, mathematics, and commerce, the proportions are approximately equal for the two groups of schools.

ENROLMENT IN THE DIFFERENT SUBJECT-GROUPS

After all, the best test of curriculum emphasis in schools, as far as this can be measured in terms of subjects and courses, is whether students are or are not taking work in certain subjects or subject-groups. It has been possible to compute, from data published by the Office of Education of the Department of the Interior in Washington, D.C., the percentages of students in private and public secondary schools who during the school year 1927-28 were enrolled in most of the regular and special subject-groups. Computations were made for private and public secondary schools in Minnesota alone and for the country as a whole.¹

The results of computations for Minnesota are reported in Figure 42. According to the percentages shown, strikingly smaller proportions of students in private schools were enrolled in English, science, social subjects, and practical arts, and slightly smaller proportions in mathematics and music and art. In only a single subject-group, foreign language, does the proportion for private schools exceed. This is manifestly out of the question, unless students in private schools typically take a smaller number of subjects, which seems unreasonable. When the percentages in all subject-groups for private schools and public schools are added, they are found to total 363.5 and 459.3, respectively. The percentage for public schools is plausi-

¹ Data used in the computations for private schools in Minnesota and in the United States appeared in Tables 11 and 10, respectively, in Office of Education Bulletin No. 19, 1929, *Statistics of Private High Schools and Academies, 1927-1928*, and those used in the computations for public schools in Minnesota and in the United States appeared in Tables 62 and 59, respectively, in Office of Education Bulletin No. 35, 1929, *Statistics of Public High Schools, 1927-1928*. The numbers of institutions reported as being represented in the Minnesota comparison are 51 private schools and 473 public schools. The numbers of students were respectively, 9,089 and 79,639. In the comparison for the United States, 248,015 students in private schools and 2,896,630 in public schools are reported as being represented.

ble, because the average student might be expected to be taking between four and five subjects in a given year. On the other hand, the percentage for private schools will seem, to those who know these schools, absurdly small, because on the average students in these schools carry as many subjects as students

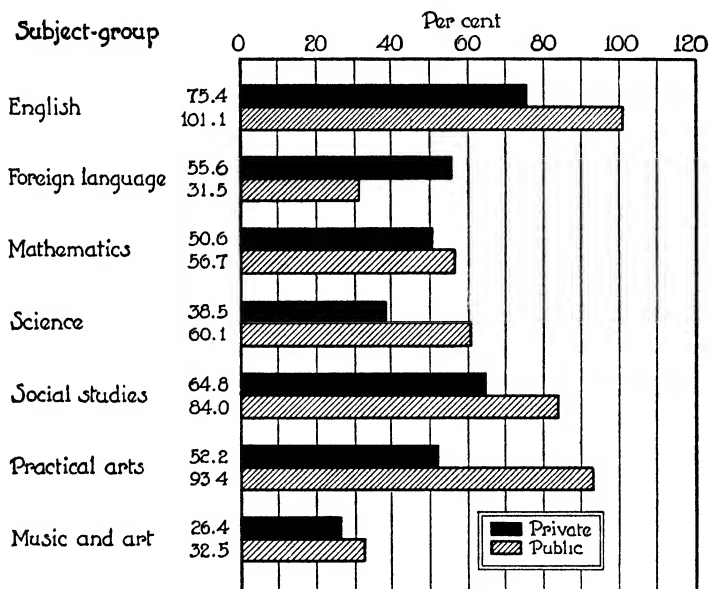


FIG. 42.—Percentages that enrolments in certain subject-groups were of total enrolments in private and public secondary schools in Minnesota, 1927-28.

in public schools. Certainly there could not be an average difference of almost one subject per student, as would be true if both percentages were approximately correct. The explanation seems to be that reports from the private schools represented were not as complete in this regard as were those from the public schools.

If this explanation is correct it may be assumed that the percentage taking English in private schools was actually more

nearly equal to that in public schools than as shown, that the percentage of difference for foreign language was even larger than represented, that the percentage taking mathematics in private schools was actually larger than in public schools, that

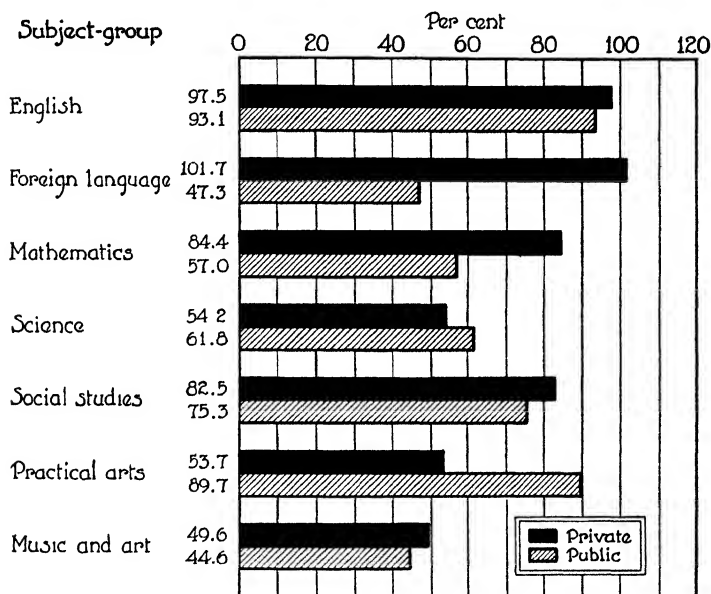


FIG. 43.—Percentages that enrolments in certain subject-groups were of total enrolments in private and public secondary schools in the United States, 1927-28

the percentages for science and the social subjects in private schools approached but was probably less than that in public schools, that the percentage for practical arts was considerably larger in public than in private schools, and that the percentage for music and art was larger in private than in public schools. In effect these differences are in harmony with those reported in earlier sections of the current chapter.

With a single minor exception the corrected interpretations

just made for Minnesota are paralleled, as may be seen in Figure 43, in the country as a whole. That exception is in the social subjects, in which this figure shows a slightly larger percentage for private than for public schools. This difference is caused by a larger percentage of students in private schools taking courses in history, a percentage so large that it offsets a difference in the public schools in favor of non-historical social subjects such as community civics, sociology, economics, etc. The general conclusion is again one emphasizing the more conservative character of the curriculum in the private schools.

THE UPSHOT OF THE COMPARISONS

The trend of the evidence in these comparisons has been so uniformly in a single direction that it seems needlessly repetitious to restate the findings in summary: the offerings of private schools as a group are unquestionably more traditional and conservative than are those of public schools. If anything more than this brief statement is required to comprehend all the truth it would be that of the three types of private schools represented in the Minnesota study, all of which were found to be more conservative than the public schools, Catholic schools were nearest the public schools in matters of the curriculum, Scandinavian schools were not far from the Catholic schools, and independent schools followed at the greatest distance from a modern program. Public schools are without question open to criticism for the conservative make-up of their offering, but private schools are more open to it than public schools.

Appropos of this conclusion is a statement in his report by the maker of an investigation of non-parochial, non-military private schools for boys. The statement was prompted by what he had found to be the "majority" curriculum in these schools, that is, a curriculum made up of the courses offered by at least

half the schools. These courses were English (four high-school years), algebra (first two years), plane geometry (third year), solid geometry and trigonometry (fourth year), history (first three years), French (all four years), Latin (all four years), Greek (last three years), German (last three years), Spanish (second and third years), chemistry (third year), and physics (fourth year).¹ Following is the statement:²

The private school is a college-preparatory school par excellence, but its training for college could obviously be improved. In addition, the private-school offering is certainly not the best training in the more important matter of preparing for life. After pursuing the typical curriculum, for what in modern life is the pupil well prepared? Caesar's wars and Cicero's speeches in Latin, the binomial theorem in algebra, innumerable dates of military campaigns in history—for what do these fit a boy? Furthermore, it should be noted that private-school education is in many respects far less liberalizing than is the education given in a host of public schools, where new subjects have been introduced and more of utilitarian value incorporated in the old. All this is because the private school situation has remained traditional and comparatively unchanged.

A final comment on the differences between the offerings of private and public schools as disclosed in the chapter relates to the advocacy of the private school for its freedom to experiment. Certainly one of the most vital fields for improvement through innovation and experimentation is in the curriculum. The inference here is that private schools generally do not seem to be in as favorable a position for curriculum experimentation as public schools. There are in this country examples of individual private schools in which freedom for experimentation exceeds that in public schools generally, and which on this account are making substantial contributions to the progress of secondary education. But the evidence of the current chapter is ample proof that this is far from characteristic, and there-

¹ George A. Boyce, *op. cit.*, p. 353.

² *Ibid*, p. 357.

fore it would be next to preposterous to use freedom for experimentation as a blanket justification for all private schools. It can be used only for that exceedingly small proportion that can be shown to be actually experimental. An appropriate conclusion from the evidence is that public schools have in practice much more freedom for curriculum experimentation than private schools. This is contrary to a rather general belief and is at the same time a momentous conclusion for the progress of secondary education.

VI

THE TEACHERS¹

ASPECTS OF THE COMPARISON

The importance of including consideration of the teacher in any comparison of schools need not be argued. In this study teachers in the private and public secondary schools of Minnesota are compared in a number of ways, as to (1) extent of experience, (2) the extent of training, (3) teaching programs, (4) special preparation for subjects taught, (5) general preparation, and (6) "professional" training, that is, the amount of training in the field of education.

Two blanks were filled out by each private-school teacher to supply the information used in this portion of the comparison. The first sought evidence under the first five headings listed in the foregoing paragraph. This evidence was collected during the school year 1928-29. All but 3 of the total of 53 private schools under consideration in this book are represented in the comparison. A total of 433 blanks were returned. This was 97 per cent of all the teachers employed in the 50 schools. Thus the proportions of schools and teachers guarantee representativeness.

The other blank sought information under the sixth heading, that is, professional training only. This blank was sent out independently of the one first mentioned. The great majority of the data gathered apply to the school year 1925-26, although

¹ This chapter, like chapter v, draws generously on Gordon N. Mackenzie's "Program of Studies and Training of Teachers in Private and Public Secondary Schools of Minnesota," a Master's thesis on file in the office of the Graduate School of the University of Minnesota, 1929. The portions of the thesis most used in this particular chapter are to be found in Part II.

there are reports for small numbers of schools for each of the following years, including 1928-29. Reports were available for 43 of our total of 53 schools. The number of teachers represented is 330, which is almost a full count of teachers in these 43 schools.

Comparisons are made with data for teachers in the public high schools of Minnesota reported by Hutson.¹ The data gathered in this study of teachers in public high schools are for the school year 1921-22. This makes a discrepancy of seven years between the times of collecting the information along the first five lines listed for the two groups of teachers, and a discrepancy typically of four years between the times of collecting information concerning professional training. The discrepancy must be somewhat unfavorable to public schools. It can not, however, be highly unfavorable, because of the fact that there was no notable elevation of standards for certification of teachers in public high schools within these intervals of years. Dangers of misinterpretation owing to these discrepancies of years will be mentioned wherever necessary in presenting the evidence from the comparison.

The study of teachers in private schools paralleled closely the procedures followed by Hutson. This was done in order to facilitate direct comparison of the findings. Only a single element of the similarity will be mentioned at this point, that pertaining to the grouping of schools according to the numbers of teachers employed. Hutson classified his schools into four groups, Group I including high schools with 30 or more teachers, Group II including high schools with more than 10 but less than 30 teachers, Group III including high schools with 10 teachers or less, and Group IV including only "high-school departments" in state graded schools. The last group were usual-

¹ Percival W. Hutson, *Training of the High School Teachers of Minnesota*. Educational Monograph No. 3, University of Minnesota Press, 1923.

ly smaller than the schools of Group III. Because there were no private schools with 30 or more teachers and because there were few that were comparable in respect to size of staff with the public schools of Group IV, the private secondary schools were divided into two groups corresponding with Groups II and III of the public high schools. They are designated throughout the chapter by these numbers. Notwithstanding this comparability of the size (as measured by the size of the teaching staff) of private schools with these middle groups of public schools, it seems justifiable to include Group I of the public schools in the comparisons, the justification being afforded by the desirability of comparing the best and strongest of both private and public groups. Therefore, in the comparisons to follow data are presented concerning both groups of private schools as here classified and the first three groups of public schools as classified by Hutson.

THE EXPERIENCE OF TEACHERS

The first comparison, which concerns extent of experience, is afforded in the materials of Figure 44. This presents the median years of teaching experience prior to the school year during which the inquiry was made and the ranges of the middle 50 per cent of years of teaching experience. For this comparison it was thought best to disregard the type of school in which the experience was had (for example, private or public, or elementary or secondary). It may be seen that when the consideration is restricted to schools of the same size-group, that is, Group II or Group III, the public schools suffer by comparison. In both groups the difference is so large that the median of years for teachers in private schools exceeds even the upper limit of the middle 50 per cent in public schools. It is only when teachers in public high schools of Group I are concerned that we find the extent of experience at all comparable. These

seem to be practically on a par in this respect with teachers in either group of private schools. Attention has already been directed to the justification for including the teachers in the public high schools of Group I in the comparison.

Differences between the three types of private schools, namely Catholic, Scandinavian, and independent, are not large enough to be striking. Measures for these three types not be-

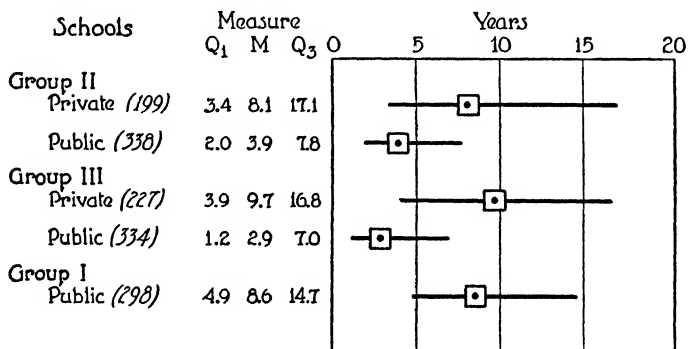


FIG. 44.—Median numbers of years and middle 50 per cent of years of experience of teachers in certain groups of private and public secondary schools in Minnesota. (The length of line represents the range of the middle 50 per cent; the square locates the median; the numbers in parentheses are the numbers of teachers represented.)

ing presented in Figure 44, it may be reported that the median years of experience for full-time teachers were found to be, respectively, 10.6, 9.5, and 9.5. The measures for part-time teachers are not as large.

If we conjecture on the rather remarkable difference in this respect between private-school and public-school teachers, we think naturally of the rapid turnover of the staff in the public high schools owing to the frequent shift of young men to occupations other than teaching and of young women out of the profession into marriage. In the schools of Group I of public

schools we have largely those who did not join the exodus for these two causes. On the other hand, among forces that make for staffs with longer experience in private schools are the permanent continuance in the profession of those who enter the teaching orders of the Catholic church and the relatively high salaries paid in certain of the independent schools. In some ways the first of these affords more promise of the development of a teaching profession than is discernible in the rapid turnover in the groups of smaller public schools, but the facts for Group I lend some assurance on this score for public schools. Although the evidence of certain studies of the relation of experience to successful teaching has not indicated that experience after three or four years is highly significant, there is little reason to believe that efficiency should not be made to increase with experience, and we may still be warranted in hoping that teachers in smaller public high schools typically will come to have longer periods of experience than has been disclosed here.

THE EXTENT OF TRAINING

The comparison of the general extent of training of teachers in private and public schools is accomplished by considering the percentages with advanced degrees, with some work beyond the Bachelor's degree but without advanced degrees, with Bachelor's degrees, and without degrees. The percentages of teachers when thus classified are shown in Table XXVIII. Figure 45 presents the same evidence except that it does not show the percentages with Bachelor's degrees who have had some graduate work (which may have been academic, professional, or both academic and professional).

In undertaking to interpret the percentages in the table and figure, certain directions may be found helpful. One of these is to bear in mind that the percentages reporting some graduate work but without advanced degrees are also included with

the percentages with Bachelor's degrees. A second is that to ascertain the total percentage with Bachelor's degrees for any group, one must add the percentage with advanced degrees to the percentage with Bachelor's degrees. A third direction refers to the fact that the percentages for any group of schools across the table, excluding those with some graduate work but

TABLE XXVIII

PERCENTAGES OF TEACHERS IN DIFFERENT GROUPS OF PRIVATE AND PUBLIC SECONDARY SCHOOLS IN MINNESOTA WITH ADVANCED DEGREES, WITH SOME GRADUATE WORK, WITH BACHELOR'S DEGREES AS HIGHEST DEGREES HELD, WITHOUT DEGREES, AND NOT ANSWERING

Group of Schools	1 Advanced Degrees	2 Some Graduate Work	3 Bachelor's Degrees	4 Without Degrees	5 No Answer
Group II:					
Private	23 3	41 2	68 0	8 7	
Public	3 1	15 4	77 5	19 1	0 3
Group III:					
Private	15 6	37 8	81 3	3 0	
Public	2 3	12 8	85 9	11 9	.
Groups II and III.					
Roman Catholic	16 0	37 2	80 2	3 8	.
Scandinavian	21 0	38 4	70 9	8 1	.
Independent	29 1	40 7	60 5	10 5	.
Group I:					
Public	10 0	22 9	71 6	16 4	1 9

without advanced degrees, when added, will total a hundred. This fact is shown again in the figure. Finally, the reader is requested to assume the comparability of the degrees represented in private and public schools—certainly, at least, the Bachelor's degrees. This comparability is assured by adherence, during the work of inspecting the private schools and approving teachers at work in them, to the list of colleges regarded as acceptable by the State Department of Education in certifying teachers for the public high schools.

The first impression is that of the superiority of the staffs in the private schools when extent of training is measured in the manner described. This is true for Group II and again for Group III. There is some superiority even when the data for private schools in these two groups are compared with those

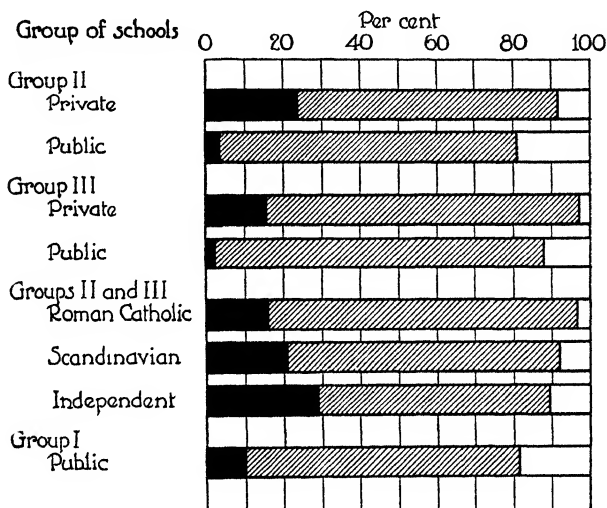


FIG. 45.—Percentages of teachers in Minnesota in the different groups of private and public secondary schools with advanced degrees, with Bachelor's degrees, and without degrees or not answering (black, advanced degrees, shaded, Bachelor's degrees, in outline, without degrees or not answering)

for public schools in Group I. This impression is given by the larger percentages with advanced degrees, the larger percentages with some graduate work, the larger percentages with Bachelor's and advanced degrees combined, and the smaller percentages without degrees in the private schools. When private schools under the different auspices are considered separately, it is found that the ascending order of percentages with advanced degrees is as follows: Roman Catholic, Scandinavian, and independent. The percentages in each of these three

types of private schools, both with advanced degrees and with advanced degrees and Bachelor's degrees combined, is larger than for the corresponding percentages in any public group.

One should hasten, however, to admonish against accepting without serious qualification this apparent conclusion of the superiority of teachers in private schools in extent of training. The danger lies in ignoring the proportion of teachers of special subjects, a proportion considerably smaller in private than in public schools. The smaller proportion in private schools is readily to be inferred from the conclusions from the analysis of the offering reported in the foregoing chapter, an analysis which showed private schools less frequently listing courses in the special subjects. But more direct evidence is available in the percentages, to be reported in a later section of the chapter, of teachers in private and public schools who give instruction in single special subjects only. For schools in Group II the percentage in public schools is more than three times that in private schools and for schools in Group III the percentage is almost four times that in private schools. The meaning of this for the issue at hand will be understood as soon as it is recalled that teachers of certain special subjects are more often without degrees than teachers of academic subjects. In Minnesota this has not been true for teachers of agriculture and home economics, of whom college graduation has been required over a long period, but at the time of gathering the data from teachers in the public high schools (1921-22) it was true for industrial or manual arts, commercial subjects, normal training, music, art, and physical training.

When only teachers of academic subjects are considered, the percentages for private and public schools with Bachelor's degrees are practically equal and include almost 100 per cent of teachers. Exceptions among teachers in public high schools are a small proportion of teachers who, not being college graduates, have obtained the first grade professional certificate qualifying

them to teach in public high schools by the steep road of an examination program that at times seems to have been intended as a discouragement to those not college graduates. A few persons similarly certificated were approved in the private schools. Thus, *the difference in percentages with Bachelor's degrees in favor of private schools is owing to the nature of offering and not to low standards of teacher-preparation for public high schools.*

There remains, however, the larger proportion of private-school teachers with advanced degrees and with some graduate work without advanced degrees. In part this advantage may be ascribed to the longer experience of private-school teachers: they have had more time than the less experienced public-school teachers in which to add to training beyond the first academic degree. This statement is measurably, even if not fully, borne out by the considerable proportion of public-school teachers in Group I who have advanced degrees or who have taken some graduate work but are without advanced degrees. We ought not, however, to leave consideration of this element of difference without referring to the practical certainty that the comparison of situations seven years apart is somewhat unfair to the public schools and without admitting that the teachers in them must during that time have supplemented their periods of training by graduate study.

That the situation found in these accredited schools in Minnesota may not be characteristic in other areas or for all secondary schools is suggested by certain evidence in unpublished reports of surveys made of Catholic high schools of Milwaukee and of the diocese of Cleveland under the auspices of the Bureau of Education of the National Catholic Welfare Conference.¹ Of 75 teachers in 8 Catholic high schools of Milwaukee 37 were reported as "graduates of college or univer-

¹ Citation is made through the courtesy of Dr. Francis M. Crowley, former secretary of the Bureau.

sity," 35 having Bachelor's degrees, 10 having Master's degrees, and 1 a Doctor's degree. Since all having advanced degrees doubtless also had Bachelor's, it is apparent that not quite half this group of teachers held degrees. Of 242 in 35 high schools in the diocese of Cleveland 164 were reported as "graduates of college or university," 155 having Bachelor's degrees and 31 having Master's degrees. This means that approximately two-thirds held Bachelor's degrees. Although the methods of investigation in these studies and in the Minnesota study are not identical, it is clear enough that the proportions holding degrees are smaller than for the accredited Catholic high schools in Minnesota.

It should be apparent from this evidence in other localities that there may be in the teacher situation in any single state a certain uniqueness which makes it inadvisable to generalize for all states on the basis of what has been found for Minnesota—a degree of uniqueness considerably greater than for any of the major lines of comparison in foregoing chapters. If the study of teachers in private schools had been made eight or ten years earlier, the percentage with Bachelor's degrees would have been much smaller than as here reported. The explanation is not in the enactment of a new standard, but rather in the systematic and progressive enforcement of the standard during the later years, so that, although in 1920 there were in the group schools in which few if any teachers had acceptable Bachelor's degrees, there were in 1928-29 in the entire group of accredited private schools few teachers of academic subjects without such degrees. This status was attained much earlier in the public schools, and it is correct to say that with respect to teachers of academic subjects there was much less change of this sort than for private schools. At the same time, the situation can hardly have been so unusual as not to be paralleled approximately at least in a number of states, sufficiently so to warrant introducing this aspect of the comparison.

THE TEACHING PROGRAM

The comparison of teaching programs has been made possible by tabulating the number of different subjects in which teachers were giving instruction. In this tabulation the usual departmental lines in the colleges were followed, identical groupings being used in both private and public schools. Each of the following was regarded as a subject: English, mathematics, Latin, Greek, German, French, Spanish, history, political science, economics, sociology, chemistry, physics, botany, zoölogy, biology, physical geography and geology, astronomy, physiology, agriculture, public speaking, home economics, shop and mechanical drawing, music, graphic arts, commercial subjects (other than economics), and physical education. There is good reason for abandoning some of these subject-divisions in considering the work of high-school teaching, but the dominant adherence to them in teacher-training institutions is justification for respecting them in the present comparison.

The results of the tabulations when transmuted into percentages of teachers in each group giving instruction in 1, 2, 3, 4, 5, 6, and 7 different subjects are presented in Table XXIX. Because an unusual proportion of the teachers in the private schools were part-time teachers, only full-time teachers are considered here.¹ These are persons teaching at least fifteen periods a week in high-school grades. In schools of Group II (with more than 10 but less than 30 teachers) there is some evidence of a wider spread of instructional activity for private than for public schools. The difference is even more noticeable for schools of Group III (with 10 teachers or less) than for those of Group II. When Roman Catholic, Scandinavian, and independent schools are considered separately (but with Groups II and III combined because of the small numbers of teachers represented), teachers in independent schools are

¹ Part-time teachers are usually single-subject teachers.

seen to be favored with smaller subject-combinations than those in schools of other types. Next in order come the teachers in public schools. After these come teachers in Scandinavian schools. Last in order in this respect are teachers in

TABLE XXIX

PERCENTAGE DISTRIBUTION OF TEACHERS IN PRIVATE AND PUBLIC SECONDARY SCHOOLS ACCORDING TO THE NUMBER OF DIFFERENT SUBJECTS THEY WERE TEACHING*

GROUP OF SCHOOLS	NUMBER OF DIFFERENT SUBJECTS							TOTALS
	1	2	3	4	5	6	7	
Group II:								
Private (124)†	41 9	37 1	17 7	2 4	0 9			100 0
Public (350)	55 2	27 7	10 8	5 1	0 9	0 3		100 0
Group III:								
Private (185).	21 1	22 7	34 6	16 3	4 9	0 5		100 1
Public (345) .	30 2	28 4	23 5	14 2	2 6	0 8	0 3	100 0
Groups II and III:								
Roman Catholic (204) .	21 5	28 4	32 4	13 2	3 9	0 5	.	99 9
Scandinavian (40)	32 5	30 0	27 5	10 0				100 0
Independent (65)	52 3	27 7	13 8	1 5	4 6			99 9
Public (695)	42 7	28 1	17 1	9 6	1 7	0 6	0 1	99 9
Group I:								
Public (307) . .	71 3	20 8	7 2	0 3	0 3	.	.	99 9

* Based on Tables XC (p. 193) and XCI (p. 196) in Gordon N. Mackenzie, "Programs of Studies and Training of Teachers in Private and Public Secondary Schools of Minnesota," and on Table I (p. 9) in Percival W. Hutson, *Training of High School Teachers in Minnesota*.

† The numbers in parentheses are the numbers of teachers represented.

Roman Catholic schools. An examination of subject assignments in certain of these Catholic schools occasionally discloses a surprising disregard of departmental lines, a disregard prompted by a plan of assigning all courses of instruction taken by a given class, for example sophomores, to a single teacher. The percentages for public schools of Group I (with 30 or more teachers), brought in by way of contrast, show a much greater

concentration of teaching work to single subjects than is shown even for independent schools.

A separation of the teachers represented in the first column of percentages in Table XXIX, that is, the teachers of single subjects, into those who teach academic and those who teach "special" subjects (such as industrial arts, home economics, commercial subjects, and physical training) makes it clear that the advantage of the public schools is entirely attributable

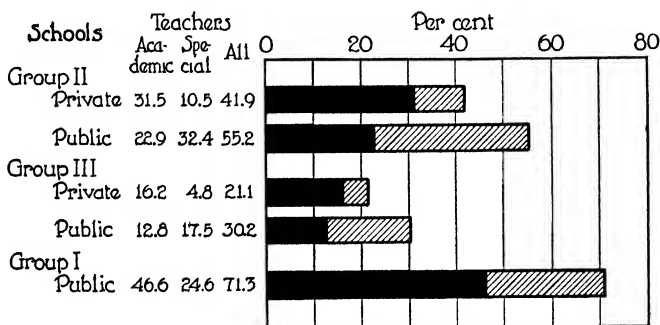


FIG. 46.—Percentages of teachers of academic and of special subjects in private and public secondary schools of Minnesota teaching single subjects (black, academic subjects; shaded, special subjects).

to the larger proportions of teachers of special subjects, to which reference has already been made in the section immediately preceding. The evidence in support of this interpretation is to be found in Figure 46, which shows for both Groups II and III larger percentages of teachers of academic subjects in the private schools giving instruction in single subjects and larger percentages of teachers of special subjects in the public schools thus favored. This, in fact, was brought out in another relationship in the foregoing section and takes its origin in the larger proportion of the total offering in these special subjects in public schools.

PREPARATION FOR SUBJECTS TAUGHT

The evidence concerning the special preparation of the teachers for subjects they were teaching was secured by having them report the amount of work they had had in each of a long list of subjects. The work taken in high school was reported in units and that taken in higher institutions in semester hours. The basis of comparison was in semester hours. The only field in which the high-school units were taken into account in tabulating semester hours is foreign language. Out of respect for predominant practice in colleges in recognizing high-school work in this field, each unit of a foreign language taken in high school was counted as four semester hours of the same language in college, and this amount added to the number of semester hours reported by the teacher as having been taken in higher institutions. Identical procedures were used for both private and public schools.

Computations were made for a host of subjects, but the comparisons reported here are for eight subjects only, namely English, Latin, French, history, mathematics, chemistry, physics, and the commercial subjects. For the most part these were selected because the numbers of teachers were large enough to reduce the influence of casual factors in the measures used. For a large number of subjects, among them German, Spanish, civics, botany, zoölogy, home economics, shop work, agriculture, and physical education, the numbers of teachers represented in private schools or public schools, or in both groups, were so small as to remove the significance of comparison. The same cause accounts for the failure to introduce comparisons for the three different types of private schools, that is, Roman Catholic, Scandinavian, and independent.

The comparisons are made by means of medians and by ranges of the middle 50 per cent of numbers of semester hours. These are shown in Figures 47 and 48. In English, teachers

in private schools have an appreciable but not striking advantage. The same is true for Latin, except that public-school teachers of Group I have had somewhat more work than either group of private-school teachers. Teachers of French in private schools of Groups II and III have taken much more work in that field than have public-school teachers in the same groups, but public-school teachers of Group I are fully on a par in this regard with private-school teachers. This difference in favor of the private schools is a reflection of the larger amount of work in French offered in certain private schools: when more work in a subject is offered, teachers with more preparation are demanded. Differences for history are almost negligible. The direction of differences for mathematics and chemistry is more doubtful. In physics we have a situation somewhat similar to that in history except that the amounts of work are typically less. The comparison for commercial subjects is the most interesting of all, with teachers tending to be much better equipped in public schools than in private schools. In arriving at the measures presented, graduation from a nine-month course in a business college was counted as 30 semester hours, even though such work was not of collegiate grade. Such procedure seemed necessary in view of the fact that so few institutions of collegiate rank give training in the commercial skills. The remarkable difference in this field in favor of public schools may be explained by the larger part it plays in the public-school curriculum; the special subsidization of the work by the state, which makes it possible to dictate higher standards of teacher preparation; and the fact that, in the work of inspection, preparation of teachers of these departments in the private schools was not scrutinized as carefully as that of teachers in other departments.

Considering the evidence as a whole for Groups II and III alone, we find no uniform trend of superiority in favor of either

private or of public schools. Nevertheless, the measures used are more often in favor of the private schools than of the public

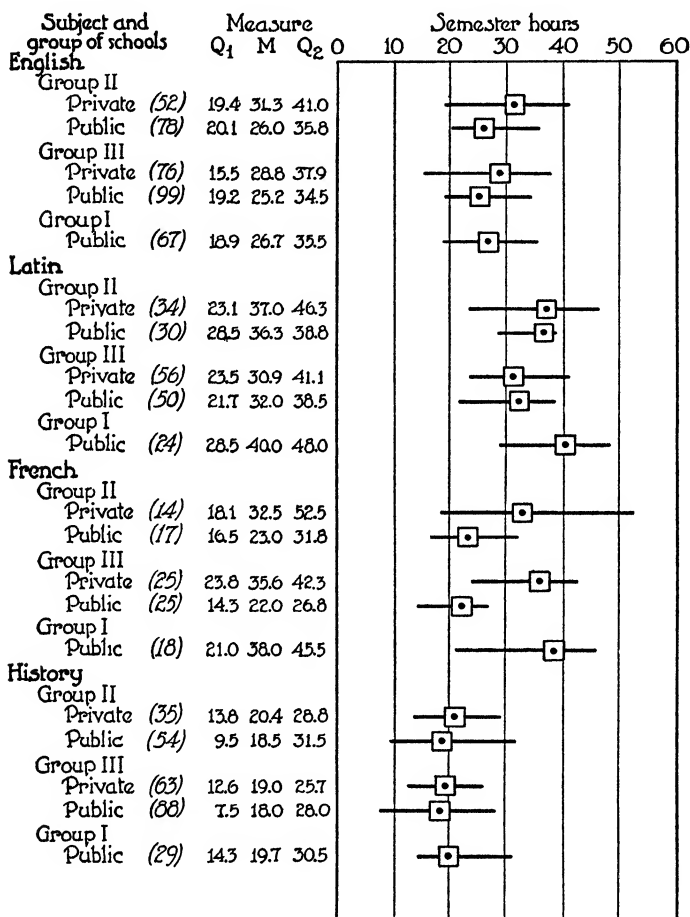


FIG. 47.—Median number of semester hours and middle 50 per cent of semester hours of preparation in subject matter of teachers of English, Latin, French, and history in private and public secondary schools in Minnesota. (The square locates the median and the length of line represents the range of the middle 50 per cent; the figures in parentheses are the numbers of teachers represented.)

schools. This conclusion is in harmony with the evidence on the general extent of training reported earlier in the chapter and,

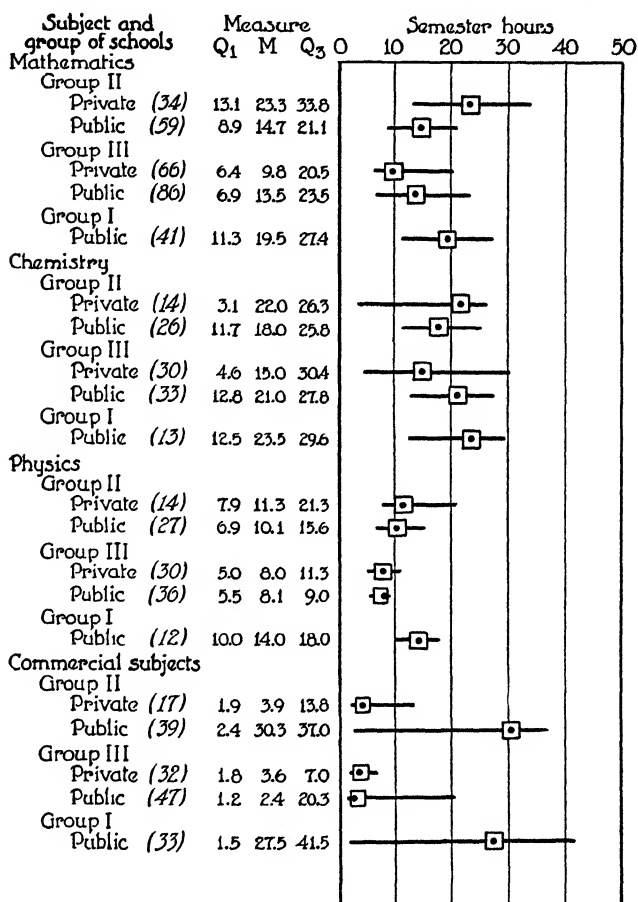


FIG. 48.—Median number of semester hours and middle 50 per cent of semester hours of preparation in subject matter of teachers of mathematics, chemistry, physics, and commercial subjects in private and public secondary schools in Minnesota. (The square locates the median and the length of line represents the range of the middle 50 per cent, the figures in parentheses are the numbers of teachers represented.)

more remotely, with the evidence on the amount of previous experience, since longer periods of experience afford more opportunity for making up the inadequacies of undergraduate training by means of supplementary study. However, when teachers in public high schools of Group I are included in the comparison, the trend of superiority swings toward public high schools. Attention has already been directed to the validity of a comparison that includes this group, the validity arising from the fact that largest and presumably best private schools are thus being compared with the largest and presumably best public schools. It may not be out of place to call attention to the fact that many teachers in all groups, public and private, are inadequately prepared in the subjects they teach.

Almost certainly some readers will be disposed to question the accuracy of the reports of teachers on the numbers of semester hours of work they have had in the subjects in which they give instruction. These critics will say that memory can not be trusted and there may even be some inclination to misrepresentation by respondents. Some extent of error must be conceded. At the same time, evidence is at hand to prove that the error can not be large enough to invalidate the comparison. A few years following the completion of the investigation by Hutson which has been drawn upon in this comparison, another study was made by Miss Millbrook¹ in which, instead of using questionnaire returns, she went to registrar's records in the institutions of which the teachers were graduates. Comparability of the findings of these two studies may be illustrated in the fact that the median numbers of semester hours of mathematics taken in college by those who were teaching in this subject in high schools employing less than ten

¹ Grace Millbrook, "The Specialized Preparation of High School Teachers for the Content of the Subjects They Teach." Master's thesis on file in Graduate School, University of Minnesota, 1927.

teachers were, respectively, 13.5 and 16.1. These data do not bear out the expectation that teachers would report larger amounts of course work than they have actually taken. The difference between the amounts is probably owing to the fact that different teachers were represented.

GENERAL TRAINING OF TEACHERS

It is not enough to consider the special preparation of teachers for the subjects they are teaching. It is desirable also to compare teachers as to their general backgrounds of training as this may be determined by their contacts with different subjects and fields. Such a comparison is significant chiefly for the light it throws on the breadth and nature of liberalizing training of teachers. It is in part significant also for its bearing on the possible versatility of teachers, that is, the practicability and need in small schools of assigning teachers to more than a single subject of study. It is with the breadth and nature of training that we are concerned at this point.

The measures used are merely the percentages of the teachers in each group who report having taken work in college in the different fields. These percentages are shown in Table XXX. Attention may at first most profitably be turned to the first four columns only, those essaying comparisons for private and public schools of Groups II and III. There is no significant difference in English or public speaking. Much larger proportions of teachers in private than in public schools have had collegiate contact with the ancient languages, Latin and Greek. Differences in the modern foreign languages, French, German, and Spanish, are in the same direction, but much smaller. Differences for the social subjects are more equivocal, being to some extent in favor of private schools for history and political science, and of public schools for economics and sociology. Philosophy and ethics seem to have been more favored in the

184 PRIVATE AND PUBLIC SECONDARY EDUCATION

TABLE XXX

PERCENTAGES OF TEACHERS IN PRIVATE AND PUBLIC SECONDARY SCHOOLS IN MINNESOTA WHO HAVE HAD PREPARATION IN HIGHER INSTITUTIONS IN THE DIFFERENT SUBJECTS AND SUBJECT GROUPS

SUBJECT OR SUBJECT-GROUPS	GROUP II		GROUP III		GROUPS II AND III COMBINED			GROUP I
	Private (191)	Public (342)	Private (227)	Public (337)	Roman Catholic (276)	Scandi- navian (59)	Inde- pendent (83)	Public (263)
English	97 4	93 3	98 2	94 1	98 5	96 6	96 3	92 0
Public speaking	44 5	48 8	48 4	49 3	49 3	50 8	34 9	40 3
Latin	90 6	28 4	88 6	31 5	87 6	78 0	91 6	39 5
Greek	34 0	9 1	34 8	13 1	34 1	39 0	32 5	15 6
French	57 1	40 9	62 5	44 5	62 0	33 9	72 3	51 9
German	59 7	54 5	60 4	56 7	52 9	79 7	60 9	63 5
Spanish	27 2	11 4	29 5	13 7	32 6	13 6	25 3	13 3
History	83 2	64 7	88 1	70 6	87 3	78 0	86 7	60 8
Political science	25 6	20 4	34 4	32 7	29 7	33 9	30 1	25 9
Economics	33 5	52 0	43 6	50 8	36 2	40 7	47 0	47 5
Sociology	42 4	53 8	50 2	54 1	50 4	39 0	39 8	42 7
Philosophy and eth- ics	77 5	40 1	75 3	32 1	84 8	57 6	61 4	33 5
Psychology	81 2	67 6	86 3	68 9	87 0	79 7	77 1	55 2
Botany	27 2	36 0	30 4	44 5	28 3	30 5	30 1	36 9
Zoology	27 7	46 2	24 8	52 0	20 7	30 5	33 3	35 4
Physiology	23 0	28 9	15 0	30 6	16 7	22 0	22 9	23 2
Chemistry	51 8	48 0	53 3	52 6	51 4	55 9	54 2	44 5
Physiography and geology	22 0	23 9	18 9	24 4	20 3	16 9	21 7	24 3
Physics	38 7	28 9	42 7	33 5	37 0	35 6	45 8	27 8
Astronomy	20 4	16 1	14 1	21 4	14 1	22 0	22 9	17 9
Mathematics..	70 7	68 1	76 6	68 4	75 4	64 4	75 9	71 9
Agriculture	2 1	7 3	2 2	8 1	1 4	6 8	1 2	5 7
Shop and mechani- cal drawing	8 9	17 3	9 7	12 5	9 1	8 5	10 8	8 4
Home economics..	7 9	18 4	7 9	18 7	8 7	6 8	6 0	11 4
Commercial sub- jects	9 4	11 1	9 7	8 6	10 1	16 9	6 0	8 7
Music	17 3	18 1	20 7	10 4	22 0	16 9	12 0	12 9
Graphic art....	9 9	5 3	5 7	8 6	7 6	1 7	12 0	8 7

training of teachers in private schools. Large proportions in both private and public schools have taken psychology, but the percentages are in favor of private schools. In the biological sciences, botany, zoölogy, and physiology, the advantages are clearly with public schools, while in the two dominant physical sciences, chemistry and physics (but not including physiography and geology and astronomy), the situation is reversed. Teachers in private schools have more often taken collegiate mathematics; but the difference is not large. For almost every comparison in the practical arts, namely agriculture, home economics, shop and mechanical drawing, and commercial subjects, the percentages are larger for the public schools. The situation for the fine arts again is more nearly equivocal.

The next three columns of Table XXX have been introduced to ascertain any striking differences between the three types of private schools. No really remarkable differences appear, although a few are deserving of mention: the larger proportion with German and the smaller proportion with French and Spanish in Scandinavian schools, the larger proportion with philosophy and ethics (more often ethics) in Roman Catholic schools, the larger proportion with commercial subjects in Scandinavian schools, and the larger proportion with music in Roman Catholic schools.

The last column of the table has been introduced to evaluate the influence of the period during which the teachers received their training. From evidence reported above on the length of experience, it was found that this was much longer for private-school teachers than for public-school teachers of the same groups, but that when private-school teachers were compared with public-school teachers of Group I, the extent in years of experience was roughly comparable. This would mean that the periods during which collegiate training was received would

roughly coincide. Any difference between percentages taking the subjects would thus be attributable to causes other than the emphasis in the colleges of that time. Differences among those mentioned persisting, even if slightly diminished, after elimination of the influence of difference in time are: larger proportions with Latin, Greek, French, Spanish, chemistry, and physics in private schools and larger proportions with botany, zoölogy, agriculture, and home economics in public

TABLE XXXI

TOTALS OF PERCENTAGES OF TEACHERS IN PRIVATE AND PUBLIC SECONDARY SCHOOLS HAVING TAKEN WORK IN CERTAIN SUBJECT-GROUPS IN HIGHER INSTITUTIONS
(Based on Table XXX)

SUBJECT-GROUP	GROUP II		GROUP III		GROUPS II AND III COMBINED			GROUP I
	Private	Public	Private	Public	Roman Catholic	Scandinavian	Independent	Public
Ancient language	124 6	38 0	123 4	44 6	121 7	118 0	124 1	55 1
Modern language	144 0	106 8	152 4	114 9	147 5	127 2	167 5	128 7
Biological science	77 9	111 1	70 2	127 1	73 3	86 4	92 3	95 5
Practical arts	28 3	54 1	29 5	47 9	29 3	34 0	24 0	34 2

schools. Differences accentuated are the larger percentages for private schools with history, psychology, and philosophy and ethics. Shifts of predominance from private to public schools or vice versa are infrequent and not marked. Any significant generalization made from the comparisons of the first four columns of Table XXX would require only minor modification when the last column is taken into account.

The chief differences noted in Table XXX are made to stand out in Table XXXI, which presents for the same groups of schools the totals of the percentages for certain subject groups. For example, the first figure in the table for private schools, 124.6, is the sum of the percentages for Latin (90.6) and Greek

(34.0) in the corresponding column of Table XXX. From these totals we conclude that ancient and modern language enter more frequently into the training of the teachers in the private schools. To these should be added, from the evidence of the foregoing table, psychology and philosophy and ethics. On the other hand, the biological sciences and the practical arts enter more frequently into the training of the teachers in public schools. In part, no doubt, as may be judged from the evidence of chapter v, these differences reflect tendencies to difference in the offerings of private and public schools. But teaching needs as represented in these offerings can not account for all the contrast. There must be a residue which represents something in the way of fundamental differences in the nature of general training.

PROFESSIONAL TRAINING

The final aspect of the preparation of teachers on which comparison is made is in their "professional training," that is, in the work in the field of education. The methods of inquiry were not identical for private-school and public-school teachers. On the blanks for both groups was the same long list of eighteen courses in education with space for additional courses not listed. On the blank for private schools were spaces for the numbers of weeks and numbers of periods a week. At the head of the list were a few non-educational courses, such as general psychology, sociology, and ethics, data concerning which were not included in the computations of Table XXXII. From the evidence supplied were computed the total numbers of semester hours. On the blanks for public schools teachers were requested to report the numbers of semester hours, if any, for each course, and also the total number of semester hours in education. They often failed to report totals even after reporting on separate courses. This reduced somewhat the numbers

of teachers represented in these totals. Because of these differences in procedure, the comparison is not fully reliable, but sufficiently so to warrant such conclusions as are drawn.

The first column of Table XXXII shows teachers in private schools more often without work in this field than teachers in

TABLE XXXII

NUMBERS OF TEACHERS IN PRIVATE AND PUBLIC SECONDARY SCHOOLS WITHOUT TRAINING IN PROFESSIONAL SUBJECTS AND AVERAGE NUMBERS OF SEMESTER HOURS IN THESE SUBJECTS FOR TEACHERS IN THE DIFFERENT GROUPS OF SCHOOLS

Group of Schools	Number without Professional Training	Average Number of Semester Hours	Average Percentage of Teachers for Eighteen Courses
Group II:			
Private (147)*	10	15 3	16 5
Public (190)	3	18 8	27 3
Group III:			
Private (193)	13	18 7	32 0
Public (183)	3	19 5	26 8
Groups II and III combined:			
Roman Catholic (230)	7	19 2	25 8
Scandinavian (38)	3	13 5	19 9
Independent (72)	13	12 3	16 1
Group I:			
Public (143)	0	21 0	25 8

* The numbers in parentheses are the numbers of teachers represented

public schools. When private schools are separated into the three groups according to the auspices under which they are maintained, teachers in independent schools are most often found to be without work in education. The average numbers of semester hours show the teachers in public schools leading those in private schools. When private schools are separated into the three groups, teachers in Roman Catholic schools are seen to compare favorably in this respect with teachers in pub-

lic schools. Teachers in independent schools bring up the rear, largely because the teachers in boys' schools are more often than others without courses in this field. The last column of the table reports the average percentage of teachers in each group who reported having taken the eighteen courses listed. These averages were obtained by adding, for example, the percentages of teachers in private schools of Group II who reported having taken the different courses, namely, history of education, philosophy of education, educational psychology, etc., and dividing by the number of different courses listed, that is, eighteen. These averages bear out in an approximate way the differences found in the second column of the table.

In interpreting the differences found, it will be helpful to recall that the standards for accrediting private schools contained no reference to training in education. Whatever the teachers in private schools have had in their field was taken without regard to the demands of the standardizing agency. It may seem surprising, therefore, that the average amounts taken are as nearly alike as they have been found to be, especially as the State Department of Education imposes such a standard on teachers in public schools. There would appear to be little difficulty in stipulating such a standard for private schools; and if it is desirable for public schools, there is no reason to believe that it would not be equally so for private schools. It would work without hardship by being applied to new appointees only.

CHIEF CONCLUSIONS FROM THE EVIDENCE

In a comparison of teachers in private and public secondary schools of Minnesota, a comparison in which the factor of size of schools as measured by the numbers of teachers employed is controlled, the following are the essential findings:

1. When schools with staffs of comparable size were con-

sidered, teachers in private schools were found to have had much more extended experience than teachers in public schools. It seemed fair, however, to bring the largest public schools into the comparison, even if the private schools are not often as large as the largest public schools. When this was done, teachers in private schools and those in the largest public schools were not far from parity in this respect. The comparison was chiefly unfavorable to the smaller public schools. When private schools of the three types, namely, Roman Catholic, Scandinavian, and independent, were compared with each other, no notable differences appeared.

One factor which makes for the difference in respect to experience of teachers between the private schools and the public schools of comparable size is the almost universal membership of those giving instruction in Catholic schools in religious orders. This precludes the rapid turnover characteristic of smaller public high schools. It is exceptional for teachers in these schools to be recruited from the laity; this is done only when the supply of qualified teachers in the order maintaining the school under consideration is not adequate. A second factor is the relatively high salaries paid in certain independent schools as compared with those paid in public high schools of corresponding size.

2. In extent of training as reflected in the proportions of teachers with Bachelor's or advanced degrees (or with training beyond the Bachelor's degree without possession of advanced degrees), teachers in private schools had the advantage even when teachers in the largest public schools were included in the comparison. The advantage, however, was chiefly to be accounted for by the teachers of the special subjects, of whom public high schools employ larger numbers and proportions than do the private schools. Teachers of special subjects are known typically to have less extended periods of training than

teachers of academic subjects. Differences in this respect are for the most part, therefore, reflections of differences in the nature and scope of the offerings in private and public schools.

3. Teaching programs, measured by the number of different subjects in which teachers were called upon to give instruction, were more complex in private schools than in public schools of the same size. The difference was owing to the larger proportion of teachers of special subjects in public schools: such teachers are not commonly called upon to give instruction outside their specialties. When the comparison was made with teachers in the largest public schools, the contrast was more clearly in favor of the public schools, even when teachers of special subjects were excluded. When teachers in Roman Catholic, Scandinavian, and independent schools were compared, the degree of complexity of teaching programs was found to decline for these types of schools in the order in which they have just been named.

4. When schools of equal size were included in the comparison, teachers in private schools were found, with exceptions in certain fields, to have more extended preparation (measured in numbers of semester hours) for subjects they were teaching. This conclusion is in harmony with the more extended education of private-school teachers as already pointed out in this summary. When the largest public schools are included in the comparison the evidence is dominantly favorable to public schools.

5. The method of studying the general education of teachers was to compute the percentages of the several groups of teachers who had had some work in college in each of a long list of subject fields. Certain differences appeared between the percentages for teachers in private and public schools. The percentages for private schools were notably larger in the ancient languages, modern languages, psychology, and philosophy and

ethics. For public schools, they were larger in the biological sciences and in the "practical" fields of agriculture, home economics, shop and mechanical drawing, and commercial subjects. These characteristic differences persisted when the more experienced teachers of the group of largest public schools were brought into the comparison. Even after allowing for the differences of emphasis in the offerings in private and public secondary schools, which would in some measure be reflected in these percentages, there seems to have been a residue of differing emphasis in the general training of the teachers.

6. Teachers in public schools averaged larger amounts of work in the field of education than teachers in private schools. The only private-school group on a par with public schools in this respect were the Roman Catholic schools, with Scandinavian and independent schools lagging behind. There is occasion for some surprise that the average amounts for private and public schools were not more widely divergent, especially as the standards applied to private secondary schools make no reference to work in education, while those applied by the State Department of Education to public high schools call for certain minimum requirements in the field.

7. It is impossible to generalize from the evidence in such a way as to indicate whether teachers in private schools as a group or those in public schools as a group were superior. In some respects private schools, and in other respects public schools, seemed to have the advantage. The nearest approach to such a generalization is that, when the largest private schools and largest public schools were compared, the teachers in public schools were either on a par with or superior to those in private schools, and when schools of the same size were compared, the points of advantage were more equally divided between the two groups.

8. Reference should be made to the possible extent to which

the similarities and differences shown are reflections of local conditions, especially as these are determined by standards applied in a single area. Variations from state to state are likely to affect somewhat, but not profoundly, the similarities and differences found in foregoing chapters dealing with students, achievement, success in the university, and the curriculum in private schools. Admittedly, they will affect teachers more, at least in certain respects. This would be true of the extent of training of teachers and professional training. If they affect extent of training, they are likely to influence the amount of preparation in subjects taught. They can not influence as much the extent of experience, the teaching programs, and the nature of the general training of teachers. One will do well to bear these limitations in mind in considering the applicability of the conclusions drawn to areas outside the state from which the evidence was taken.

VII

THE SIGNIFICANCE IN SUMMARY

SUMMARY OF THE EVIDENCE

Although summaries have been presented at the end of each of the foregoing chapters excepting the first, because of the many varieties of evidence reported it seems desirable to undertake recapitulation of all main findings at one place in this book. In order to bring out the major points of significance such a summary must be brief—briefer even than where previously made. The value of such a summary should be enhanced by special consideration of the interrelationships of the different types of evidence, consideration which is much less convenient in separate chapters, where one is prone to treat these types of evidence independently. The order of recapitulation will be that in the original treatment.

Private and public secondary schools in the United States and in Minnesota.—A comparison of the proportionate growth in recent years of private and public secondary education in the United States as to numbers of schools and numbers of students discloses an increasing predominance of public secondary education. The term “private” as applied to schools is comprehensive of a variety of types, and it is therefore preferable to consider these schools in three groups, the Roman Catholic, other denominational, and non-sectarian. When this is done, it is found that in recent years Catholic schools have gained somewhat on public schools, while the two remaining groups have lost in comparison with public schools. A majority of private schools enrol students of one sex only, whereas all but a very small proportion of public schools are coeducational.

In many ways the status and recent growth of private and public secondary education in Minnesota, the state from whose schools the basic data of this study are drawn, are an epitome of the status and trend in the United States. This is true for the increasing predominance of public secondary schools as compared with all private schools and for the recent rapid increase of Catholic secondary schools. It is true for the most part also for the three-part grouping of schools. However, the grouping followed does not quite coincide with that followed for private schools in the country as a whole. One exception is that the second type in the Minnesota study is designated as "Scandinavian" and includes, with a single exception, schools under Scandinavian denominational auspices. This may be regarded as a Protestant group in which, as concerns attendance in the schools, relatively strict denominational lines are drawn. The remaining exception is that the third group of schools includes not only non-sectarian schools, but also a few schools of other denominations in which church lines are not highly determinative of schools attended. This grouping yields more of significance than would have been afforded by a grouping that followed strictly Catholic, other denominational, and non-sectarian lines. The proportions of boys', girls', and coeducational institutions among private schools in Minnesota are not far from those reported for the United States. All public high schools in Minnesota are coeducational.

The private schools in Minnesota represented in the comparisons include a smaller proportion with small enrolments and a much smaller proportion with large enrolments than are to be found among public high schools. Many very small private schools are eliminated from the study by the fact of non-accreditation. Usually only the larger private schools seek and achieve accreditation, even though the standards applied contain no reference to minimum enrolment.

The students in attendance.—The preference for private schools on the part of those who patronize them is established in the typically greater distance of the private school attended than of the nearest public school, a difference that obtains whether or not there was a public high school within commutable distance from the home. The grounds of the preference were variously studied, both directly in requests for reasons and indirectly in a study of the characteristics of students and of their parents.

The reasons offered for attendance upon Catholic and Scandinavian schools are usually cast in religious or denominational terms. This affords justification of the grouping of private secondary schools in Minnesota as described in the foregoing section. The conviction that denomination is a dominant influence for maintaining both these groups of schools is supported by the overwhelming proportions of students coming from homes of denominations the same as those under whose auspices the schools are operating. For students in Catholic schools it emerges again in the large proportion who received their elementary schooling in parochial schools. The same can not be said of the Scandinavian group, almost all of whom received their elementary training in graded and rural public schools. The proportion of fathers of foreign birth in Catholic schools is almost identical with the proportion of foreign-born males in Minnesota in 1920 and is much smaller than for schools in certain other sections of the country. On the other hand, the fathers of students in Scandinavian schools are predominantly foreign-born. Similarly, the proportion of students in Catholic schools in Minnesota coming from homes in which a foreign language is ordinarily spoken, either alone or with English, is much smaller than for Scandinavian schools, for which it is approximately as large as the proportion of foreign-born fathers. Economic and social status does not differ

widely between the two groups. The same thing may be said for most other respects in which comparisons were made, especially the number of children in the family, the intelligence, and the educational outlook as indicated by plans following high-school graduation. A larger proportion of students in Scandinavian than in Catholic schools are overage. Statements that seem warranted from comparison of intelligence and of educational outlook of these two groups with students in public high schools are (1) that the differences found in favor of Catholic and Scandinavian schools may be accounted for by a higher degree of selection within the four-year period in these non-public schools; (2) that larger proportions in Catholic and in Scandinavian schools plan to continue in other schools, mainly non-collegiate, because of the relative lack of opportunities for occupational training in the schools attended.

The facts for independent schools are strikingly different from those for both Catholic and Scandinavian schools and for public high schools. In contrast with schools of the two groups in which denominational lines are highly determinative of attendance, religion or denomination is seldom offered as a reason for attendance and a highly predominant denomination never appears in the responses to the request for church membership or preference of parents. Independent schools are patronized, if we judge from the statements of students, because they are college-preparatory, presumably "better," and private perhaps in the sense of more exclusive. Elementary schooling is obtained by about equal proportions of students in private and public schools; parents are almost exclusively of native birth; in few indeed of the homes is a language other than English ordinarily spoken. The occupations of fathers of these students fall largely in the three most favored socio-economic classifications. Families are typically much smaller than in Catholic and Scandinavian groups. In intelligence they are

superior to other groups, although in this and in other respects there is much variation from school to school within groups and much overlapping of one group on another. With only infrequent exceptions students in independent schools look forward to continuance of education in college or university.

Only with respect to the proportions of students with one or both parents deceased do all the groups of private schools possess a significant common influence for patronage which is not also possessed by the public schools, and this is possessed only by schools with boarding facilities.

The achievement of students.—The complete comparison of private and public secondary schools included giving and utilizing the results from more than 14,000 standardized tests of achievement. The subjects represented were English, silent reading, Latin, French, algebra, plane geometry, physics, chemistry, American history, and civics. There can be no claim that tests of the kind available comprehend all desirable outcomes of the subjects represented, but, notwithstanding all limitations, the comparisons made are in significant aspects of these subjects, so that any notable tendency to differences between the groups of schools must contribute to an understanding of these schools. No attempt will be made to repeat the findings of tests given in any single subject; the purpose is rather to generalize from the full array of results. This is no easy task, especially because of the diverse and at times conflicting evidence.

The most unequivocal conclusion relates to the superior performance in the independent schools. In a few only of the measures do these schools not rank highest, and these are in subjects for which there was relatively small representation in one or more groups of the comparison. In the earlier references to this conclusion¹ quotation was made from the statements of another investigator who, finding a similar difference and

¹ Pp. 100 and 101.

also having at hand the evidence concerning the superior intelligence of students in independent schools, concluded that the superior achievement can be adequately explained without speculation as to the influence of other factors.

The honors are more evenly divided between Catholic, Scandinavian, and public secondary schools. At the same time, after subtracting the frequency with which Catholic schools and public schools are practically on a parity in the medians reported, one finds that Catholic schools are more often lower than they are higher than the public groups. Usually the differences are not large, but in three subjects these measures for Catholic schools are notably lower. This situation is the more remarkable because of the appreciably superior intelligence of students in Catholic schools, at least on the level of the last high-school year.

The records of the Scandinavian schools are less consistent than for any other group. They are sometimes higher than the Catholic or public groups, sometimes on a par with them, and sometimes lower. They suffer most in the comparison in tests of ability in English. The relatively low position in this field is explained by the large proportions of students in these schools with foreign-born fathers and from homes in which either a foreign language or a foreign language and English are ordinarily spoken.

The relative position of public schools considered as a single group may be judged for the foregoing statements: typically, although not always, they compare favorably with all groups but the independent schools. This is notwithstanding the appreciable intellectual superiority of Catholic and Scandinavian groups over the public-school groups.

When small and large public groups are compared with each other, the large public groups are found to be predominantly, but far from universally, superior to the small public schools.

One of the most important inferences and one that is certain-

ly among the least equivocal are the conclusions emphasizing *the wide variation from school to school within each of the several groups and the overlapping of the performance of these groups on each other*. There is scarcely an approach to horizontal separation by ability or performance of students in the groups of schools represented in this investigation

Success of private-school and public-school graduates in the University.—Three major comparisons were made of the graduates of private and public secondary schools who entered the University of Minnesota. (1) The first of these, a comparison of “college aptitude,” was introduced to assist in interpreting the findings from the two others, which are comparisons of scholarship in the University. (2) The first of the comparisons of scholarship was of all students from private schools with a random sampling of students from public schools entering the College of Science, Literature, and the Arts, the largest unit in the institution represented. (3) The second was by the matching method, in which, before the measures of scholarship used in the comparison were calculated, students from the two groups were matched by sex, percentile rank on the college-aptitude test, age, and the location of schools within and without the Twin Cities.

(1) The comparison on college aptitude finds the two groups as wholes to be much alike, but with appreciable superiority for the private group. In comparisons for the two sexes and for Twin-City and non-Twin-City schools, comparisons which do not distinguish Catholic, Scandinavian, and independent schools, the advantage shuttles somewhat irregularly between the two main groups. For example, men from Twin-City public schools are found to be superior to men from Twin-City private schools, while men from non-Twin-City private schools are superior to men from non-Twin-City public schools. Contrariwise, women from Twin-City private schools are supe-

rior to women from Twin-City public schools, while women from non-Twin-City public schools are superior to women from non-Twin-City private schools. These differences for Twin-City and non-Twin-City students of each sex counteract each other when data for Twin-City and non-Twin-City groups are merged. The resulting sets of measures for all men from private and from public schools are as nearly alike as are the sets of measures for all students regardless of sex. The same thing is true for the sets of measures for women.

Catholic, Scandinavian, and independent schools contribute very unequally to this near-equivalence of students from private and public schools. From Twin-City schools students from Catholic schools are nearest on a par with those from public schools, while those from Scandinavian schools and from independent schools tend, respectively, to be below and above those from public schools. A language handicap, arising from the larger proportion from homes of foreign-born or homes in which a foreign language or a foreign language and English are ordinarily spoken, may account for the lower measures for graduates of Scandinavian schools. The measures for non-Twin-City students do not reflect identical tendencies with those found for Twin-City schools.

(2) Contrary to expectations from the evidence on college aptitude, the measures of scholarship for the same students show the public group to be almost consistently superior to the private groups. This is true for composite measures for the three groups of private schools—Catholic, Scandinavian, and independent—treated as a single group. The order of honor-point ratios from lowest to highest for students from Twin-City schools in these three groups treated separately is the order of listing. The median for public schools lies between the second and third in order. In non-Twin-City comparisons the public schools are again consistently, even if not notably, superior.

The proportions of students for whom honor-point ratios could not be calculated owing to deficient records for the first quarter of attendance were larger for private than for public schools. If it had been possible to compute and introduce these ratios, it is almost certain that the differences in favor of students from public schools would have been even larger than as reported.

(3) The facts bear out the expectation from the evidence of the first two comparisons, that, when students are matched by sex, college aptitude, and age, the measures for students from public high schools are with only minor exceptions strikingly superior to those for students from all private schools combined. When comparisons are made for Catholic, Scandinavian, and independent schools separately, Twin-City and non-Twin-City combined, all three groups are found to contribute to the difference, but Scandinavian and independent schools less than Catholic schools. When comparisons are made separately for Twin-City and non-Twin-City schools in these three groups, the only group with reasonably large numbers of students for which the measures are found superior to those for public schools are the Twin-City independent schools. The differences in this particular comparison are not great enough, however, to discredit the assertion that the rather striking superiority for the independent group disclosed by the comparisons by the method of random sampling is largely owing to the superior ability as shown on the test of college aptitude.

Before leaving the findings of these comparisons we may well admonish against ascribing to individual schools of any group the record made by students from all schools of the group. Schools within all groups were found to vary widely enough to justify the statement that within groups with the poorest record are individual schools with measures which are high when compared with the records for all schools in all

groups. The converse is also true. Usually, however, the number of students from an individual school is not large enough to yield reliable measures of central tendency. We may reaffirm that the measures reported are presented as measures of groups of schools and not for the individual schools comprising the groups.

One is tempted to speculate concerning the factors that account for the differences found by this method of matched comparisons. One's first thought is of differences in the efficiency of instruction within the secondary schools from which these students come. Such an assumption has the support of the differences in achievement in the several groups of schools as disclosed in the evidence from standard tests. Almost certainly the differing degrees of efficiency of instruction are reflected in these differences in success in the University. It is impossible to weave better than a coarse fabric of explanation, but a few additional factors may be suggested. The success of students from the Scandinavian group of schools is probably hindered by the language handicap to which frequent reference has already been made, a handicap that persists even when students have been matched on a college-aptitude test. This factor could not be as influential in Catholic schools of Minnesota because of the much smaller proportion of students from homes with foreign-born parents or in which a foreign language is ordinarily spoken or where a foreign language and English vie with each other for precedence. Probably it would be a more influential factor in a community or state in which larger proportions of Catholics are foreign-born. Perhaps the most potent factor of all is that composite of influences which is often referred to as the "adjustment" or "readjustment" required in shifting from one institution to another, in this instance from a secondary school to a complex higher institution. Among varying elements in the several groups of secondary schools

would be the nature of control and discipline, the degree of self-direction permitted, the complexity of the school situation as to numbers of teachers and students, the size of classes, and the state of development of the extra-curriculum. To those who are conversant with these conditions in schools of the four groups it will not require further demonstration to convince that, in the elements of the situation that have been named, students from public high schools have the advantage in the extent of similarity with the university environment, and therefore in the extent of readjustment demanded.

The curriculum.—The evidence comparing the programs of studies in private and public secondary schools leans mainly in a single direction: the offerings in private schools as a group are unquestionably more traditional and conservative than are those of public schools. The materials of chapter v show this in three ways. (1) The curricula ("courses of study") offered are more largely of the college-preparatory type than in public high schools. (2) The subjects and courses required of all students—the "constants"—more often favor older subjects like foreign language and mathematics than the newcomers among high-school subjects of study. In the Minnesota situation the Catholic school requirements were nearest the public schools, Scandinavian schools were not far from the Catholic schools, and independent schools followed at a greater distance behind the modern trend. (3) When the total offering was reduced to percentage distributions to the different subject-groups, private schools were found to favor foreign language and mathematics more than public schools, and public schools were found to favor science and the practical arts more than private schools. Most of these differences were found to obtain not only in the schools in Minnesota but in the United States generally. These differences reflect the greater emphasis on college preparation in private secondary schools, an emphasis

echoed in the reasons for attendance reported by students as shown in chapter ii, more especially in independent schools. To advocates of this emphasis, the evidence on the relative success of graduates of private and public schools reviewed in the foregoing section must be somewhat disappointing. Other differences in the offerings were found, but those re-summarized seem the most significant.

The teachers.—Throughout the comparisons of teachers in private and public secondary schools (chapter vi) the influence of size of school was controlled by grouping the schools according to the numbers of teachers employed. Comparisons related to extent of experience, extent of training, the complexity of the teaching programs (as to numbers of different subjects taught), amount of preparation for subjects taught, the nature of the general education of teachers, and the amount of preparation in the field of education.

In schools of comparable size teachers in private schools were found to have much more extended experience than teachers in public schools. When large public schools were brought into the comparison—which seems not unfair, since by this procedure the largest private schools are compared with the largest public schools—teachers in the two groups were not far from parity in this respect. The comparison is thus chiefly unfavorable to the smaller public schools. No notable differences in extent of experience of teachers were found between Catholic, Scandinavian, and independent schools.

In endeavoring to account for this difference in favor of private schools when compared with public schools on a parity as to size one should recall that most of the teachers in Catholic schools are members of religious orders, and therefore almost certain not to shift out of teaching work. In comparison with teachers in the smaller public schools the members of these orders offer a relatively favorable opportunity for the profes-

sionalization of secondary-school teaching. Further explanation of the difference in favor of private schools as a group when schools of comparable size only are considered is provided in the higher salaries paid in several of the independent schools.

In extent of training, when this is measured by the proportions of teachers with Bachelor's or advanced degrees (or with some training beyond the Bachelor's degree without possession of advanced degrees), teachers of private schools showed to advantage even when the largest schools were included in the comparison. The advantage was largely accounted for by teachers of the special subjects. Of such teachers public schools employ larger numbers and proportions than do private schools. Teachers of special subjects are known often to have less extended training than teachers of academic subjects. Differences in this respect are therefore largely reflections of differences in the nature and scope of the offerings in private and public schools.

When analyzed by the numbers of different subjects in which teachers were giving instruction, teaching programs were more complex in private schools than in public schools of the same size. The difference was owing to the larger proportion of teachers of special subjects in public schools: teachers of these subjects are not commonly required to instruct in fields outside their specialties. Including teachers in the largest public schools in the comparison widened the difference in favor of public schools. This was true even when teachers of special subjects were omitted from consideration. The degree of complexity of programs was greater in Catholic than in Scandinavian schools and greater in Scandinavian than in independent schools.

In *special preparation* for subjects taught (as measured in numbers of semester hours) teachers in private schools were found to have more extended preparation than teachers in

public schools of the same size. This fact accords with the difference in extent of training (as measured by the proportions holding degrees or reporting training beyond Bachelor's degrees) previously reviewed. Inquiry into the nature of the *general training* of the two main groups of teachers (as measured by the percentages reporting work in the different subjects and subject-groups) finds private-school teachers to have stressed foreign languages, psychology, and philosophy and ethics, whereas public-school teachers more often studied the biological sciences and the practical arts. In some part, but probably not entirely, this is a reflection of differences in curriculum emphasis in private and in public secondary schools. The differences persisted, although in diminished proportions, when the more experienced teachers in the largest public school were introduced into the comparison: differences in the nature of general training of teachers in private and in public schools must be explained by more than the popularity of certain subjects or subject-groups during the period when these teachers were receiving their training. Teachers in public schools averaged larger amounts of work in education than teachers in private schools. Teachers in Catholic schools were nearest to the public schools in this respect, with Scandinavian and independent schools lagging behind. One might well have expected a larger difference than was found, especially as the standards of accreditation applied to the private schools contained no reference to work in education.

The evidence concerning teachers is diverse and does not warrant the simple conclusion that one of these main groups of teachers is uniformly superior to the other. The nearest approach to such a generalization is that, when the largest private schools and largest public schools were compared, the teachers in public schools were either on a par with or superior to those in private schools, and when schools of the same size were com-

pared, the points of advantage were not far from equally divided between the groups.

The respects in which the similarities and differences in teachers found are likely to be peculiar to a given state are extent of training, preparation in subjects taught, and professional training; those in which conditions are likely to be less affected by local influences are extent of experience, teaching programs, and the nature of the general training of teachers.

Additional inferences from the evidence.—A few inferences from the evidence presented, of more general character than those summarized up to this point in the chapter, should be set down again here. In various connections it has been possible to draw upon related evidence from the country as a whole or from studies in other localities. With only occasional exceptions this evidence lends support to the important conclusion that (1) *the situation disclosed for Minnesota may be regarded as an epitome of that for the country*. Illustrative exceptions are the proportions of children in Catholic schools who are children of foreign-born parents and the extent of training of teachers in private schools. This comparability of the situation in a single state with that elsewhere affords justification for making available in print the findings of such an investigation.

Another important general conclusion is that (2) *the materials of the investigation are internally consistent*. An illustrative exception is to be found in the inconsistency of the more extended training of teachers in private as compared with public schools and of the lower achievement in certain of the groups of private as compared with public schools. The assumption would be that more extended training of teachers would result in better achievement by the students. However, such exceptions are far outnumbered and outweighed by the many interrelationships of the evidence as these have been indicated in the foregoing summary and at appropriate points in preceding

chapters. The large degree of internal consistency lends additional support to many of the specific conclusions from the evidence.

The last conclusion to be mentioned which is directly inferable from the evidence presented is again one that has been suggested at earlier points: (3) *the term "private" is too broad to be applied to the schools of the types represented except in the most generic sense.* Wide differences exist from type to type and from school to school within each type. Although the term is convenient to distinguish public from non-public schools, the obligation rests upon us to bear clearly and constantly in mind that within this great composite group of non-public institutions there is greater variation even than in public institutions in all their wide variety. In our discussion and consideration of these non-public institutions we can do no less than follow a three-part grouping somewhat analogous to that which has been used in the foregoing chapters.

THE EVIDENCE PRESENTED AND THE "FUNCTION" OF THE PRIVATE SECONDARY SCHOOL

In the opening paragraphs of our first chapter the position was taken that, although an investigation of the scope and nature of that reported in this book might hope to be useful in a number of directions, probably no single study or group of studies could presume to afford a final appraisal of private or public schools. Perusal of the foregoing chapters, notwithstanding their rather wide range of contact with the schools represented, will have convinced the reader of the tenability of this position, at least as it relates to the present study. There are, nevertheless, implications of evidence for questions pertaining to the place of private secondary education in the American program, and it seems desirable to devote a few concluding pages to considering them. It is not planned to do

this by attempting at once to infer the "function" of private secondary education from the evidence presented, but rather by applying the findings of the study to certain concepts of this function of private schools already set up by other writers.

Certain conceptions of the function of private secondary schools.

--Several discussions of the place of private education are extant, but one of the most helpful for our purposes is that presented by Ryan in connection with a report of a study of Friends' schools.¹ The presentation is made by quoting and supplementing a statement of function appearing in the report of a survey of George School.² Before quoting the discussion from this report Ryan by implication brushes aside a special college-preparatory function for private schools with the following statement:³

... A number of private schools continue to exist only because a few colleges still ask for a specific kind of preparation, and because a small clientèle mistakenly believes that "college preparation" is only possible in so-called preparatory schools.

The complete quotation from the survey report is as follows:

The peculiar function of a private school in an enlightened democracy is three-fold. In the first place, it may provide opportunity for good educational training in certain localities where there is an absence of adequate public school facilities. It is possible that a private school in performing this function might defer the improvement of such public schools because of a feeling of the lack of need for it on the part of taxpayers, but, on the other hand, the absence of a private school would not necessarily hasten public school improvement. In fact, the chances are equal that the private school might act as a spur and a standard for the improvement of public schools.

¹ W. Carson Ryan, Jr., *Friends' Schools—Report of a Study of Schools under Friends' Meetings, or Conducted by Friends*. . . . Bulletin of Swarthmore College, XXIV, No. 3, Supplement (third month, 1927), 44.

² *Report of the Survey of George School (A Summary)* (September 1, 1925), pp. 7-8.

³ *Op. cit.*, p. 6.

In the second place, the private school may do work that even the best public schools do not do, but might aspire sometime in the future to do, thereby being a marker of trails for public education. Due to its more flexible administrative organization, its relative freedom from popular agitation, and its more intimate personal contacts, the private school has been able to adapt itself more quickly and efficiently to changes in our social life, and to try out various possible solutions to those problems in social adjustment that might seem to be necessary for the public schools eventually to undertake, thereby enabling the latter to adopt a well seasoned plan when the time came for it to make the change to meet the general social demand. Such movements as the kindergarten, industrial arts, home economics, health supervision, physical education, and vocational training (to mention only a few) were all initiated and developed in private schools long before the general public became aware of their desirability as a part of the program for public schools.

Finally, the private school has the opportunity of rendering certain educational services that are impossible for public schools, as now organized, to do at all, such, for instance, as taking over the entire charge of the child, day and night, for the major part of the year. This service is not generally desirable, but there are many instances in our complex social life when the individual home is nonexistent, due to the professional work of both parents that takes them frequently away from the home community as well as the home, the loss of the mother from the home, or for any reason whatever that removes close parental care and supervision. In many cases it is also desirable for certain children to get the experiences and training that come from the contact with other children in a carefully administered boarding school.

In supplementing this statement of function Professor Ryan goes on to say:¹

There is still another justification for private schools, not stated by the George School surveyors, that applies with peculiar force to Friends' schools. This has to do with the interests of parents in the best possible education for their own children. For parents to want the best possible schooling for their own children is a purpose not only consistent with social progress but probably necessary for any real advance in civilization. . . . Friends' schools came into being in the early day because a number of parents wanted better educational facilities for their children

¹ *Op. cit.*, pp. 8-9.

than were otherwise obtainable. This is the real significance of a "guarded education," and it is just as important today. There are still plenty of communities where Friends and others interested in social progress are obliged to set up their own advance posts of civilization rather than use the ordinary facilities offered. In certain parts of Pennsylvania and New Jersey particularly, Friends and others interested in higher standards of human conduct rightly hesitate to commit their children to other schools, public or private, where the method of handling children and the attitude of textbook and teacher on fundamental matters are completely at variance with principles they regard as essential.

Another conception of the function of the private school has been briefly formulated by Boyce:¹

Here, then, are the rôles, the functions which the private school has laid down for itself in the past: college preparation, religious training, and experimentation. . . . Never before has there been greater need for these three functions than there is today, when thousands are going to college, when literature is full of the need for religion, and when there is a great number of educational problems to be solved scientifically.

It is to be noted that Boyce mentioned here only three special services, one of these being the college-preparatory service set aside by Ryan and the other two being among the four accepted by Ryan. However, at a later point in his article we find that another of those specifically mentioned by Ryan is admitted almost expressly from the following:²

. . . It is very likely that many of the pupils in such private schools are from homes which are broken up in some way. Many undoubtedly have deceased parents, invalided parents, uninterested parents, separated or divorced parents, traveling parents, "busy" parents, or many other parents unable to provide a stable home life.

We have, therefore, in a composite of these two formulations by Ryan and Boyce five elements of a hypothetical function of the private secondary school which we may put to the test of

¹ George A. Boyce, "Is the Private School Fulfilling Its Function?" *School Review*, XXXVII (May, 1929), 352

² *Ibid.*, p. 356

the evidence from the investigations reported in earlier chapters, as far as the evidence is applicable. Consideration of these elements in relation to the evidence will constitute the concluding portion of the study. From what has already been said it is probably needless to remind the reader that final appraisal in terms of the evidence at hand is not even to be hoped for, although something may be said for the method of appraisal. Discussion will be in the order of mention of the elements by Ryan.

The college-preparatory service.—The case that can be made for the college-preparatory service of the private secondary school from evidence at hand is at best only a doubtful one. As far as the Minnesota study is concerned, the only group of private schools showing an advantage over public schools in this respect were the independent schools within the Twin Cities. For this group the favorable differences, although small, were consistent. In all other comparisons public schools held the advantage. Private schools certainly fare no better in the related comparisons reported by others that were summarized in chapter iv. As far as evidence now available shows, there is little ground for regarding college preparation as a peculiar province of the private secondary school.

Providing opportunities for secondary education in the absence of public secondary schools.—No evidence on such a service was presented in the foregoing chapters. The writer recalls, among all the more than fifty private schools represented in the Minnesota investigations, one parish school conducted in a rural community in which no public high school was being maintained. In these days of rapid development of public secondary education we may well doubt that the proportionate frequency of this service is more than occasional. On the other hand, there is the counter complaint in many smaller communities with struggling high schools (and sometimes larger

communities) that competition of schools on private foundations in the same communities hinders the proper development of public high schools. This hindrance, although the complaint is plausible, seems not yet to have been established in recorded fact.

Private schools as centers of innovation and experimentation.—Although it is admittedly not comprehensive of all relationships, the evidence at hand concerning private schools in Minnesota and elsewhere in the country gives little indorsement to the claim that private schools serve more often than public schools as centers of innovation and experimentation. Certainly, the comparison of the curriculum, one of the features of the school in which innovation and experimentation would early be reflected, disclosed no such tendency. The reader will recall that in the chapter dealing with the offering private schools were found to be much more conservative than public schools. This is the conclusion also of Boyce from his study of approximately two hundred and fifty private schools in thirty-four states, most of which were non-parochial, non-military schools for boys:¹

“The traditionalism of the curriculum is strong proof that little of note has been done on curriculum revision. What can be found in other fields? Outside of but one or two schools particularly dedicated to research, the writer could find very little evidence of any experimentation going on.”

Among the other than strictly curriculum innovations one may currently encounter in private schools of the country are the country-day feature, the Dalton plan, and occasional elements of junior high school reorganization. Of these the first has probably been carried farther than the second and the second farther than the third. All three have some bearing on the curriculum but can not affect it as fundamentally as de-

¹ *Ibid.*, p. 358.

sirable owing to the obeisance the private school of the independent type must make to the requirements for admission to college. (How inappropriate the term "independent" seems in this connection!) On the level of the elementary grades a small proportion of private schools can and do manifest a good deal of freedom and introduce a number of "progressive" features, but on the high-school level the dictates of the colleges are a serious obstacle to curriculum innovation. As with the private schools of the country, certain of the schools in Minnesota have introduced the country-day feature. There is also an occasional school with beginnings in the other innovations named. But modification in experimental and innovational respects is slow to materialize in Minnesota as elsewhere.

That a few schools among a great host of a given type conceive and execute their function in part or whole in experimental terms affords justification of those few schools only. It can not be regarded as a blanket indorsement of the remainder of that host. These must justify their existence, if at all, in other ways. The plain fact is, as is inferable from the evidence of chapter v, that public schools as a group are more favorably disposed to innovation and experimentation than private schools. We may hope that it is not out of place here to contend, against the usual belief, that public schools can and must be expected to try out novel procedures. They will do so increasingly as administrators and teachers come to be better trained in the methods of educational investigation.

The school as a substitute for the home.—The evidence on parental mortality presented in chapter ii establishes the need for an institution which combines the services of the home and the school as this is done in the better boarding schools. This need is magnified, as may be judged from the quotations already made above on this subject, by the children whose homes are disrupted by causes other than death of one or both parents.

PRIVATE AND PUBLIC SECONDARY EDUCATION

Also, there is the small proportion of children who attend boarding schools and whose homes are remote from opportunities for secondary education. An occasional public school has made meager beginnings toward meeting such a need by establishing and maintaining a dormitory, but this beginning is at present scarcely more than a prophecy that the public secondary school will ultimately take over what is in the present situation unquestionably a peculiar service of the private school.

The denominational service of the private secondary school.—On first thought it may seem inaccurate and even unfair to characterize the happily-formulated supplementary “justification” of private schools quoted above from Professor Ryan’s statement as “denominational” service. Deliberation over the question, however, encourages the belief that, although the specific reasons given by Friends, or Catholics, or Lutherans for sending their children to schools of their own denomination may not be identical, they are nevertheless much akin. Even when the reason given is as simple as that such a practice will help perpetuate one’s denomination (which is not the manner of statement used by Ryan), there underlies this statement the confidence that the denomination has some special contribution to make to human welfare.

The evidence of chapter ii leaves no doubt as to the high potency of church membership or preference in continuing the patronage of schools of certain denominations. At the same time there is little evidence in this investigation on whether we should or should not maintain denominational schools. The lower performance on tests in civics in certain groups of schools as shown in chapter iii is pertinent, but scarcely more than fragmentary evidence. There are those who would contend that an issue of this nature must be settled on deductive grounds, and even the most ardent inductionists among us must admit that solution of such a problem by the methods

of a genuine science of society is still remote. In either case one is, for the time being at least, called upon to decide such an issue in relation to one's point of view. Although in the circumstances it may seem gratuitous to do so, the present writer ventures his personal judgment—he hopes, with some tolerance for the conflicting viewpoint of others—that the maintenance of separate denominational secondary schools will not in the long run comport with the best good of an integrated American society.

We come thus to the following tentative conclusions concerning the several elements of a function by hypothesis peculiar to the private secondary school, (1) that the evidence gives at best only equivocal support to its superior efficacy in college preparation; (2) that in the present development of public secondary education the instances would be infrequent where the opportunities of secondary education would be made more accessible by private agencies than under public auspices; (3) that justification of private secondary schools on the ground that they are centers of innovation and experimentation applies to a very small minority only and can not be presented as a blanket indorsement of all private schools; (4) that the institution which, through provision of boarding accommodations, combines the services of both school and home is abundantly justified by the large proportions of children whose homes are disrupted by death or other cause; and (5) that whether or not denominational service is justifiable is for the present at least dependent on one's point of view. The writer reaffirms that these conclusions are merely tentative and insists that it would be preferable to have all of them entirely disregarded, rather than that disagreement with them by the reader should detract from realization of the main purpose of this monograph, which has been to report an investigation aiming at a better understanding of both private and public secondary education than has heretofore been possible.

SELECTED BIBLIOGRAPHY

(NOTE.—The list is representative of accessible recent literature dealing with private secondary schools. Among the items are popular treatments, directories, and reports of an investigative character. Not many treatments of the type last named have been made or have found their way into print.)

American Private Schools. A handbook of the best private schools of the United States and Canada. Boston: P. E. Sargent. (Annual publication.)

Blair, E. N. "Why I Sent My Children Away to School." *Harper's Magazine*, CLII, 428-36 (March, 1926).

Boyce, George A. "Is the Private School Fulfilling Its Function?" *School Review*, XXXVII, 347-62 (May, 1929).

Briggs, Thomas H. *The Great Investment: Secondary Education in a Democracy.* The Inglis Lecture, 1930. Cambridge, Massachusetts: Harvard University Press, 1930. Pp. x+144.

Burns (Rev.), J. A. *The Growth and Development of the Catholic School System in the United States.* New York: Benziger Brothers, 1912. 421 pp.

Croswell, James G. "The Private Secondary School." In *Principles of Secondary Education* (ed. by Paul Monroe). New York: Macmillan Company, 1914. Pp. 233-45.

Crowley, Francis M. "Rapid Development of Catholic High Schools in Past Decade." *School Life*, XIV, 112-14 (February, 1929).

Crowley, Francis M., and Dunne, Edward P. (compilers). *Directory of Catholic Colleges and Schools.* Washington: National Catholic Welfare Conference, 1928. 566 pp.

Cummings, James E. "Pertinent Facts on Catholic Secondary Education." *The Catholic Educational Review*, XXVIII, 447-54 (October, 1930).

Fitzpatrick, Edward A. "The Religious Curriculum and the Aim of Education." *The Catholic School Journal*, XXX, 351-53 (October, 1930).

Hackett, F. S. "Independent Schools." *Outlook*, CXLIII, 138-39 (May 26, 1926).

Hinchman, Walter S. "Private Schools—Their Distinctive Merits." *Independent*, CIX, 76 (August 19, 1922).

- Mattfield, H. W., Jr. "Can Any Good Thing Come Out of the Private School?" *School and Society*, XXII, 229-34 (August 22, 1925).
- Potter, George M. "Relative Efficiency of Public and Private Secondary Institutions." *School Review*, XXI, 523-37 (October, 1913).
- Price, Lucien. "Hardscrabble Hellas." *Atlantic Monthly*, CXXXIX, 153-66 (February, 1927).
- "Private Schools." In *Cyclopedia of Education* (ed. by Paul Monroe), V, 39-45. New York: Macmillan Company, 1913.
- Ryan, W. Carson, Jr. *Friends' Schools—Report of a Study of Schools under Friends' Meetings or Conducted by Friends*. . . . Bulletin of Swarthmore College, XXIV, No. 3, Supplement. (Third month, 1927.)
- Sharp, Dallas Lore. "Patrons of Democracy." *Atlantic Monthly*, CXXIV, 649-60 (November, 1919).
- Statistics of Private High Schools and Academies, 1927-1928*. United States Office of Education, Bulletin No. 19, 1929.
- Stearns, Alfred E. "The American Academy." In *Types of Schools for Boys* (ed. by M. V. O'Shea). Indianapolis: Bobbs-Merrill Company, 1917. Pp. 1-49.
- Stearns, Alfred E. *The Education of the Modern Boy*. Small, Maynard and Company, 1925. 271 pp.

APPENDIX A

PRIVATE SECONDARY SCHOOLS IN MINNESOTA REPRESENTED IN THE COMPARISONS

Location	Name of Institution
Adrian	St. Adrian High School
Albert Lea	Luther Academy [†]
Austin	Columbus High School
Bird Island	St. Mary's High School
Caledonia	Catholic Central High School
Collegeville	St. John's College (Academy of)
Crookston	Mt. St. Benedict Academy
	St. Joseph's Academy
Duluth	Cathedral High School for Boys
	Cathedral High School for Girls
	Villa Scholastica Academy
Faribault	Bethlehem Academy
	St. Mary's Hall
	Shattuck School
Fergus Falls	Park Region Luther College
Graceville	St. Mary's Academy
Hutchinson	Maplewood Academy
Lake City	Mary McCahill Institute
Little Falls	St. Francis High School
Madison	Lutheran Normal School
Mankato	Academy of Our Lady of Good Counsel
Minneapolis	Augsburg Academy
	Blake School
	De LaSalle High School
	Minnehaha Academy
	Minnesota College
	Northrop Collegiate School
	St. Anthony High School
	St. Margaret's Academy

[†] Discontinued in 1928.

AND PUBLIC SECONDARY EDUCATION

Location	Name of Institution
New Ulm	Catholic High School
Owatonna	Pillsbury Academy
Red Wing	Red Wing Seminary
Rochester	St. John's High School
Rollingstone	Holy Trinity High School
Sleepy Eye	St. Mary's High School
St. Cloud	Cathedral High School
St. Joseph	Convent of St. Benedict
St. Paul	Bethel Academy
	Breck School
	Cretin High School
	Derham Hall
	Oak Hall
	Phalen-Luther College (Academy of)
	St. Joseph's Academy
	St. Paul Academy
	St. Thomas Military Academy
	Summit School
	Visitation Convent
St. Peter	Gustavus Adolphus Academy
Wabasha	St. Felix High School
Waseca	Sacred Heart High School
Winona	Cathedral High School
	Cotter High School

- Office of Education, 2, 4, 6, 7, 8, 9, 10, 15, 141, 159
- Otis Self-Administering Test of Mental Ability, 51
- Outlook of students in secondary schools, 59-65
- Parental denominational preferences, 25-29
- Parental mortality as a factor of attendance in private schools, 31-33
- Parish schools, 12
- Paterson, D. G., 104
- Pennsylvania, 58
- Percentile rank on college-aptitude test, 109-10
- Phillips Exeter Academy, 46
- Physics test, results of, 89-91
- Plane geometry tests, results of, 87-89
- Potter, G. M., 133, 219
- Powers General Chemistry Test, 91-92
- Powers, S. R., 91
- Preference for private schools, 19-21
- Preparation for subjects taught, 178-83
- Price, Lucien, 219
- Private and public secondary education, relative status and growth, 1-16
- Private schools, classification of, 5-8, 12-13
- Private schools represented in the comparisons, list of, Appendix A
- Professional training of teachers, 187-89
- Program of studies, types of, 143-48
- Public secondary schools, extent in comparison with private schools, 2-11
- Pupils. *See* Students
- Reading tests, results of, 76-78
- Roman Catholic secondary schools. *See* Catholic secondary schools
- Ryan, W. C., Jr., 210-12, 213, 216, 217, 219
- St. Louis, Missouri, 31, 42-43, 47, 60
- St. Paul, Minnesota, 13, 72, 105
- Scandinavian secondary schools, as a group, in Minnesota, 12-17
- Scholarship of Freshmen in the University of Minnesota, 114-33
- School as substitute for home, 31-33, 215-16
- Schools, types of, 5-7, 11-14, 194-95
- Seattle, Washington, 31, 42-43, 47, 60
- Segregation of sexes in schools, 8, 14
- Sharp, D. L., 219
- Size of schools, 14-17
- Social status, economic and, of fathers, 40-47
- State Department of Education, Minnesota, 148, 170, 189
- Stearns, A. A., 219
- Students, comparison of, in private and public schools, chap. ii, 196-98
- Subjects of study, 151-61
- Success in the university of graduates of private and public schools, chap. iv, 200-204
- Summary of comparisons of private and public schools, 194-209
- Teachers in private and public schools, chap. vi; aspects of the comparison, 165-67; experience, 167-69; extent of training, 169-75; teaching program, 175-77; preparation in subjects taught, 178-83; general training, 183-87; professional training, 187-89; summary, 205-8
- Terman Group Test of Mental Ability, 59
- Tests, intelligence, 50-59; achievement, chap. iii; English, 72-76; reading, 76-78; Latin, 79-82; French, 82-84; Algebra, 84-87; plane geometry, 87-89; physics, 89-91; chemistry, 91-92; American history, 92-94; civics, 94-99; "college-aptitude," 109-14
- Training of teachers, extent of, 169-75; in subjects taught, 178-83; general, 183-87; in education, 187-89

228 PRIVATE AND PUBLIC SECONDARY EDUCATION

- | | |
|--|--|
| Tressler English Minimum Essentials
Test, 72-76 | Van Wagenen American History
Scale, 92-94 |
| Twin Cities, 13, 105 | |
| University of Chicago, 133 | Wood, B. D., 87 |
| University of Chicago High School, 46 | Wood, E. P., 58, 99-100 |
| University of Minnesota, 11, 16, 65,
104 | Woody, Clifford, 95 |
| University, success in the, of graduates
of private and public schools, chap.
iv | Yale University, 133 |
| | Youngstown, Ohio, 36 |

UNIVERSAL
LIBRARY



142 260

UNIVERSAL
LIBRARY